V. *Catalogue of the Reptiles and Batrachians of Barbary (Morocco, Algeria, Tunisia), based chiefly upon the Notes and Collections made in* 1880–1884 *by* M. Fernand Lataste. *By* G. A. Boulenger.

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[Plates XIII.–XVIII.]

Introduction.

On his appointment to the posts of Professor of Zoology and Assistant-Director of the Museum in Santiago, Chili, in 1889, M. Lataste felt reluctantly compelled to abandon his projected Catalogue of the Reptiles and Batrachians of Barbary. He handed over to me the whole of his notes, with the request that I should bring out the work. The constant correspondence with my distinguished friend ever since he took up the study of that fauna, as well as my acquaintance with his collection, had prepared me for such a work; and knowing I could rely on his kind help in revising my MS., I thought it would not be presumptuous on my part to undertake the Catalogue which I have now the honour of offering for publication to the Society.

Accounts of his visits to Algeria and Tunisia have been given by M. Lataste in the introduction to his Catalogues of the Mammalia[1], to which I must refer for the detailed itinerary.

The first journey was undertaken in 1880, and lasted from the middle of February to the end of July. The environs of Algiers, Setif, El Guerah, Batna, Lambesa, and Biskra having been explored, an excursion was made in the south of the High Plateaux and far into the Sahara, which lasted from the middle of March to the end of May. The route followed was from Biskra to Wargla through Tuggurt, and back to Biskra through the Mzab, Laghouat, and Bou-Saada. From June 1st the following places were visited in succession:—Batna, Constantine and environs, Bona and environs, Philippeville, Setif, Chabet-el-Acra, Bougie and environs, Dellys, and Tizi-Ouzou and environs.

The second visit, from April 1st to June 20th, was chiefly devoted to the exploration of Kabylia and the region of the Hodna, after a stay of two weeks at Oran and two weeks at Algiers. The itinerary was from Algiers to Aumale, Beni-Mansour, Tilla-Rana, Fort National, Bougie, and thence south to Msila, Wed Magra, Barika, and Batna, and back to Algiers through Constantine, Setif, and Palestro.

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[1] "Catalogue des Mammifères Apélagiques sauvages de Barbarie," Actes Soc. Linn. Bordeaux, xxxix. 1885.—Exploration Scientifique de la Tunisie. Catalogue critique des Mammifères Apélagiques sauvages. Paris, 1887.

As a member of the Official Scientific Mission, M. Lataste visited Tunisia in 1884, arriving at Tunis on the 1st April. The greater portion of his stay was spent on the Gulf of Cabes and the Island of Djerba (April 13th to May 25th). He then marched from Cabes, through Tozzer, Taferma, Gafsa, Feriana, and Tamesmida to Tebessa in Algeria (July 1st), whence he proceeded, by coach and rail, to Bona.

On the occasion of the meeting of the "Association Française" at Oran, in April 1888, M. Lataste paid a second visit to that place, again exploring its environs, and making an excursion to Aïn Sefra, on the frontiers of the Sahara and Morocco.

Besides the materials brought together by M. Lataste, the rich collection of the British Museum has afforded me much information, especially respecting Morocco. And I have to tender my best thanks to my friends Dr. O. Boettger, of Frankfort-on-the-Main, and Dr. F. Müller, of Basle, for loan or gift of additional material.

As to the scope of the present Catalogue. My object has been to give only so much description and synonymy (together with a reference to a good figure, when such exists) as is necessary to ensure correct identification of the species, and I hope the keys I have given will prove to work satisfactorily for that purpose. In a few cases I have had to enter into discussions on the value of certain characters, and for some little-known species I have inserted fuller descriptive notes; but the distribution in Barbary of the various forms has been dealt with as comprehensively as the data available at present permit.

I have accepted the geographical delimitation of this fauna as traced out by my friend in his Catalogue of Mammalia, and for the reasons, purely practical, which he has given in that work. For it goes without saying that the Sahara forms no part of Barbary in a zoo-geographical sense, whilst the exclusion of the Cyrenaica, which, as observed by Sir Lambert Playfair, must not be confounded with the Oases of the Sahara, but is an island detached from the eastern spurs of the Atlas in the ocean of the desert, is further justified from the fact that its herpetologicel fauna is still too imperfectly known[1].

Natural Divisions of Barbary.

The division of Algeria into three parallel zones, viz., the Tell, the High Plateaux, and the Sahara, is so familiar as hardly to require a definition. The *Tell* is the region which borders the Mediterranean, and includes the Lesser Atlas; its fauna is essentially that of the borders of the Mediterranean, and differs but little from that of the Spanish and Italian peninsulas. The *Plateaux*, consisting mostly of nude steppes with a mean altitude of 2000–3000 feet, is the zone comprised between the Tell and the Sahara, and presents in its fauna a mingling of Northern and Southern forms. Geryville, Laghouat, and Biskra are exactly on the limit of the Plateaux and the Sahara. Towards Oran the Plateaux extend almost to the sea-coast. The *Sahara*, south of the Great Atlas, and extending uninterruptedly from the Atlantic Ocean to the valley of the Nile, has an altogether special fauna, only a few of the forms of the Tell (*Rana esculenta*, *Bufo viridis*, and *Tropidonotus viperinus*, for instance) extending into its northern portion. But this distinction applies only to Algeria; the Plateaux, which to the west are limited by the north-eastern ramifications of the Great Atlas of Morocco, form towards the east a wedge which culminates in the east of the Province of Constantine, so that in Tunisia the Tell passes directly into the Sahara, and we consequently obtain in Southern Tunisia a mingling of certain forms which in Algeria, separated as they are by the range of plateaux, are characteristic of either the one or the other district. The lofty Atlas of Morocco separates the Sahara from the plain of Morocco, which to the north and north-east passes into the Tell proper and is completely cut off from the Plateaux; this plain having a distinct fauna, deserves to be dealt with separately, and I propose to allude to it as the *Moroccan* district. Its fauna is still very imperfectly known, the only places at which herpetological collections have been made being Casablanca, Mogador, and the route from Mogador to Morocco. A few forms are known from the valley of Sous, but of the Great Atlas proper we know nothing. Hooker and Ball, remarking on the scarcity of animal life as a characteristic feature of the Great Atlas, state that "of the numerous Reptiles that abound about the skirts of the mountain-range, few, except Lizards, seem to frequent the interior valleys; and the latter are wanting, or at least rare, in the higher region." Of Eastern Morocco we likewise know absolutely nothing. But the northern promontory, which bears Tangier, Ceuta, and Tetuan, has been tolerably well investigated, and forms altogether so distinct a feature in the fauna of Barbary that it deserves to be recognized as the *Tangitanian* district. There we meet with species otherwise peculiar to the Moroccan district, and with a few endemic forms, but with comparatively few, except the most widely distributed, that are identical with those of the Algerian Tell; and, what is still more surprising, no more special affinity is shown to the fauna of Southern Spain than in the latter district, with the only exception of the occurrence of *Molge waltlii*.

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[1] A list of reptiles collected by G. Rhumer around Bengazi in the Cyrenaica, and named by Dr. Reichenow, was published in 1883 in the Sitzungsb. Ges. naturf. Freunde Berlin (p. 149). The following species are enumerated:—*Chamæleon vulgaris*, *Hemidactylus verruculatus* [=*turcicus*], *Agama savignyi*, *Lacerta muralis*, *Acanthodactylus boskianus*, *A. lineomaculatus*, *Gongylus ocellatus*, *Zamenis florulentus*, *Coronella* (*Macroprotodon*) *brevis* [=*cucullata*, var.], *Naia haie*, *Bufo variabilis* [=*viridis*].

The record of *Lacerta muralis* is of especial interest; that of *Acanthodactylus lineomaculatus* may be due to confusion with *A. pardalis*; and the so-called *Agama savignyi* is probably *A. inermis*.

Barbary is therefore divided into five districts, viz.:—1, The *Moroccan*; 2, the *Tangitanian*; 3, the *Tell*; 4, the *Plateaux*; 5, the *Sahara*. In addition to these districts, the political divisions of Oran, Algiers, Constantine, and Tunisia are adopted to serve as landmarks in the distribution from West to East of the species shown, as far as present knowledge permits, in the following Table.

List of the Reptiles and Batrachians of Barbary, showing their Distribution.

(The names of genera, species, or varieties confined to Barbary are printed in *italics.*)

A. Moroccan district; B. Tangitanian district; C. Tell; D. Hauts-Plateaux; E. Sahara; F. Prov. Oran; G. Prov. Algiers; H. Prov. Constantine; I. Tunisia.

North—South.				West—East.					
C.	D.	E.		A.	B.	F.	G.	H.	I.
			Reptiles.						
*	*	*	1. Testudo ibera, *Pall.*	*	..	*	*	*	*
*	..	..	2. Emys orbicularis, *L.*	..	..	..	*	*	
*	*	*	3. Clemmys leprosa, *Schw.*	*	*	*	*	*	*
	*	*	4. Stenodactylus guttatus, *Cuv.*	..	..	*	*	*	*
		*	5. Tropiocolotes tripolitanus, *Ptrs.*	..	..	..	..	..	*
*	*	*	6. *Saurodactylus mauritanicus*, D. & B.	*	..	*	*		
			7. Gymnodactylus *trachyblepharus*, Bttg.	*					
			8. Phyllodactylus europæus, *Gené* (Galita Isl.)	..	..	..	..	..	*
	*	*	9. Ptyodactylus lobatus, *Geoffr.*	..	..	*	*	*	
*	*	*	10. Hemidactylus turcicus, *L.*	..	..	*	*	*	*
*	*	*	11. Tarentola mauritanica, *L.*	*	*	*	*	*	*
	*	*	12. —— *neglecta*, Strauch	..	..	..	..	*	
	*	*	13. Agama inermis, *Reuss*	..	..	..	*	*	*
		*	14. —— *tournevillii*, Lat.	..	..	..	..	*	
*	*	*	15. —— *bibronii*, A. Dum.	*	*	*	*		
	*	*	16. Uromastix *acanthinurus*, Bell	..	..	*	*	*	*
			17. Ophisaurus *koellikeri*, Gthr.	*					
	*	*	18. Varanus griseus, *Daud.*	..	..	..	*	*	*
*	*	..	19. Blanus cinereus, *Vand.*	*	*	*	..	*	
*	*	..	20. *Trogonophis wiegmanni*, Kaup	*	*	*	*	*	*
*	*	..	21. Lacerta ocellata, *var. pater*, Lat.	..	..	*	*	*	*
			21*a*. —— ——, *var. tangitana*, Blgr.	..	*				
*	..	..	22. —— muralis, *Laur.*	..	*	*	*	*	*
*	..	..	23. —— *perspicillata*, D. & B.	..	..	*			
*	*	..	24. Psammodromus *blanci*, Lat.	..	..	..	*	*	*
			25. —— *microdactylus*, Bttg.	*	*				
*	*	*	26. —— algirus, *L.*	*	*	*	*	*	*
	*	*	27. Acanthodactylus boskianus, *Daud.*	..	..	*	*	*	*
	*	*	28. —— scutellatus, *Aud.*	..	..	*	*	*	*
*	*	*	29. —— pardalis, *Licht.*	..	..	*	*	*	*
*	*	..	30. —— vulgaris, *D. & B.*	*	*	*	*	*	
*	*	*	31. Eremias guttulata, *Licht.*	*	..	*	*	*	*
*	*	*	32. Ophiops occidentalis, *Blgr.*	..	..	..	*	*	*
	*	*	33. Mabuia vittata, *Oliv.*	..	..	..	..	*	*
		*	34. Eumeces schneideri, *Daud.*	..	..	..	..	*	*
*	*	..	35. —— *algeriensis*, Ptrs.	*	..	*			
		*	36. Scincus fasciatus, *Ptrs.*	..	..	*	..	..	*
		*	37. —— officinalis, *Laur.*	..	..	*	*	*	*
		*	38. Chalcides ocellatus, *Forsk.*	..	..	..	..	*	*
*	*	..	38*a*. —— ——, var. tiligugu, *Gm.*	..	..	*	*	*	*
			38*b*. —— ——, *var. vittatus*, Blgr.	..	*				
			38*c*. —— ——, *var. polylepis*, Blgr.	*					
*	..	..	39. —— lineatus, *Leuck.*	*	*	..	..	*	
*	*	..	40. —— tridactylus, *Laur.*	..	..	*	*	*	*
			41. —— *mionecton*, Bttg.	*	*				

North—South.				West—East.					
C.	D.	E.		A.	B.	F.	G.	H.	I.
*	..	..	42. Chalcides *mauritanicus*, D. & B.	..	..	*			
		*	43. —— sepoides, *Aud.*	..	..	..	*	*	*
*	*	*	44. Chamæleon vulgaris, *Daud.*	*	*	*	*	*	*
*	*	*	45. Eryx jaculus, *L.*	..	..	*	..	*	*
*	..	..	46. Coronella *amaliæ*, Bttg.	..	*	..	..	*	
*	..	..	47. —— girondica, *Daud.*	*	..	*			
		*	48. Lytorhynchus diadema, *D. & B.*	..	..	*	..	*	*
	*	*	49. Zamenis *algirus*, Jan	..	..	..	*	*	*
*	*	..	50. —— hippocrepis, *L.*	*	*	*	*	*	*
		*	51. —— diadema, *Schl.*	..	..	..	*	*	*
*	..	..	52. Tropidonotus natrix, *L.*	..	..	..	*	*	
*	*	*	53. —— viperinus, *Latr.*	*	*	*	*	*	*
*	*	*	54. Macroprotodon cucullatus, *Geoffr.*	*	*	*	*	*	*
	*	*	55. Psammophis sibilans, *L.*, var. punctatus, *D. & B.*	..	..	*	*	*	*
*	*	*	56. Cœlopeltis lacertina, *Wagl.*	*	*	*	*	*	*
		*	57. —— producta, *Gerv.*	..	..	*	..	..	*
		*	58. Naia haie, *L.*, var. annulifera, *Ptrs.*	*	..	..	..	*	*
*	..	..	59. Vipera latastii, *Boscá*	..	*	..	*	*	
*	*	*	60. —— lebetina, *L.*	*	..	*	..	*	*
			61. —— arietans, *Merr.*	*					
		*	62. Cerastes vipera, *L.*	..	..	*	*	*	*
	*	*	63. —— cornutus, *Forsk.*	..	..	*	*	*	*
		*	64. Echis carinata, *Schn.*	..	..	..	..	*	*
			BATRACHIANS.						
*	*	*	1. Rana esculenta, *L.*, var. ridibunda, *Pall.*	*	*	*	*	*	*
*	*	*	2. Bufo viridis, *Laur.*	*	..	*	*	*	*
*	*	..	3. —— *mauritanicus*, Schl.	*	*	*	*	*	*
*	..	..	4. —— vulgaris, *Laur.*	..	*	*	*	*	
*	..	..	5. Hyla arborea, *Laur.*, var. meridionalis, *Bttg.*	*	*	*	*	*	*
*	*	..	6. Discoglossus pictus, *Otth*	*	*	*	*	*	*
*	..	..	7. Salamandra maculosa, *Laur.*, *var. algira*, Bdr.	..	*	*	*	*	
*	..	..	8. Molge *poireti*, Gerv.	..	..	*	*	*	*
*	*	..	9. —— *hagenmuelleri*, Lat.	..	..	..	..	*	
			10. —— waltlii, *Mich.*	..	*				

Bibliography.

In the work of

1. SHAW, J. Travels, or Observations relating to several parts of Barbary and the Levant. Oxford: 1738, 4to,

we find the first reference to the "Oviparous Quadrupeds" of Algeria (pp. 249–250), which, although not described, are mostly identifiable, viz., as *Testudo ibera* ("The Land-Tortoise"), *Clemmys leprosa* ("The Water-Tortoise"), *Chamæleon vulgaris* ("The Chamæleon"), *Varanus griseus* ("The Warral"), *Uromastix acanthinurus* ("The Dab"), *Lacerta ocellata* ("The Common Green Lizard"), *Psammodromus algirus* and *P. blanci* ("The Zermoumeah"), and *Tarentola mauritanica* ("The Niji-daimah").

But the first list according to the system of Linnæus is given in the first volume of

2. Poiret. Voyage en Barbarie. Paris: 1789, 8vo,

in which a chapter (pp. 283–290) is devoted to the "Animaux Amphibies" of Algeria. In addition to a marine turtle said to be very common in the Mediterranean, and which therefore could hardly have been the *Testudo coriacea* of Linnæus to which Poiret refers it, the following species are enumerated:—

1. *Testudo græca*, L. (=*T. ibera*, Pall.).
2. *Lacerta agilis*, L. (=*L. ocellata*, var. *pater*, Lat.).
3. *Lacerta algira*, L. (=*Psammodromus algirus*, L.).
4. *Lacerta chamæleon*, L. (=*Chamæleon vulgaris*, Daud.).
5. *Lacerta chalcides*, L. (=*Chalcides tridactylus*, Laur.).
6. *Lacerta vulgaris*, L. (Unidentifiable.—*L. vulgaris*, L.=*Molge vulgaris.*)
7. *Lacerta palustris*, L. (=*Molge poireti*, Gerv., or *M. hagenmuelleri*, Lat.).
8. *Lacerta salamandra*, L. (=*Salamandra maculosa*, Laur.).

The next list is supplied by

3. Rozet, M. Voyage dans la Régence d'Alger. Paris. 1833, 8vo,

who adds (vol. i. pp. 230–233) the following species not recorded by Shaw or Poiret:—

1. *Rana esculenta*, L.
2. *Rana temporaria*, L. (=*Discoglossus pictus*, Otth).
3. *Bufo*, sp. (=*Bufo mauritanicus*, Schleg.).
4. *Coluber natrix*, L., var. (=*Tropidonotus viperinus*, Latr., var.).
5. *Coluber monspessulanus*, Herm. (=*Cœlopeltis lacertina*, Wagl.).
6. *Coluber hippocrepis*, L. (=*Zamenis hippocrepis*, L.).
7. *Vipera daboia*, Lacép. (=? *V. lebetina*, L.).
8. *Tiliqua ocellata*, Gray (=*Chalcides ocellatus*, Forsk.).

The *nomen nudum* of *Lacerta viridissima* is bestowed on *L. ocellata*, and the "Niji-Daimah" of Shaw receives the name of *Platydactylus fascicularis*, Cuv.

4. Gervais, P. Enumération de quelques espèces de Reptiles provenant de Barbarie. Ann. Sci. Nat. (2) vi. 1836, pp. 308–313.

Gives a list of 27 species from Morocco and the Province of Algiers, which, together with a revised nomenclature, adds 13 species, of which as many as five have to be erased, viz., *Testudo marginata*, Schoepff, as undoubtedly due to confusion with old specimens of *T. ibera*, and *Anguis fragilis*, L., *A. punctatissimus*, Bibr., *Pseudopus serpentinus*, Merr., and probably *Coluber agassizii*, Mich., as based on erroneous statement of locality (see p. 114).

The additions are:—

1. *Gecko (Hemidactylus) verruculatus*, Cuv. (=*turcicus*, L.).
2. *Gymnodactylus mauritanicus*, D. & B. (*Saurodactylus*).—Algiers.

3. *Lacerta agilis*, L. (This I suppose to be meant for *L. muralis.*)—Algiers.
4. *Lerista dumerilii*, Coct., MS. (=*Chalcides mauritanicus*, D. & B.).—Algiers.
5. *Scincus cyprius*, Cuv. (=*Eumeces algeriensis*, Ptrs.).—Algiers.
6. *Amphisbæna cinerea*, Vand.—Tangier.
7. *Amphisbæna elegans*, Gerv. (=*Trogonophis wiegmanni*, Kaup).—Tangier, Zaffarine Islands.
8. *Coluber austriacus*, L. (undoubtedly=*Macroprotodon cucullatus*, Geoffr.).—Algiers, Tangier.

The Tortoises receive the correct names of *Testudo ibera* and *Emys leprosa*; the "Dab" that of *Uromastix acanthinurus*, Bell; *L. ocellata*, var. *pater*, appears as *L. viridis*, *Cœlopeltis* as *Coluber æsculapii*; the variety of *Tropidonotus viperinus*, alluded to by Rozet, receives the name of var. *aurolineatus*, Gerv.; a toad from Bona is named *Bufo arabicus*, Rüpp.; and the name *Triton poireti* is proposed for the *Lacerta palustris* of Poiret.

Several of the Reptiles recorded by Gervais from the province of Algiers have ultimately proved not to occur in that part of Algeria.

Gervais's list was shortly followed by a contribution by Schlegel, published as an Appendix to the first volume of

5. Wagner, M. Reisen in der Regentschaft Algier. Leipzig: 1841, 8vo. Bemerkungen über die in der Regentschaft Algier gesammelten Amphibien, von Schlegel. Pp. 106–139.

The following species are added:—

1. *Stenodactylus guttatus*, Cuv.
2. *Lacerta guttulata*, Licht. (*Eremias*).
3. *Lacerta pardalis*, Licht. (*Acanthodactylus*).
4. *Vipera echis*? and *brachyura*, Cuv., from Oran (=*V. lebetina*, L.).
5. *Vipera cerastes*, L., from Biskra (=*Cerastes cornutus*, Forsk.).
6. *Hyla arborea*, L.

The true Lizards are referred to under the correct names of *Lacerta ocellata* and *L. muralis*, *Macroprotodon* stands as *Coronella lævis*, *Discoglossus* is referred to as *Rana picta*, and the new name *Bufo mauritanicus* is bestowed on the Moorish toad.

A second list by

6. Gervais, P. Sur les Animaux vertébrés de l'Algérie. Ann. Sc. Nat. (3) x. 1848, pp. 204, 205,

enumerates 47 species from Algeria, mostly from specimens received by the Paris Museum, which number, however, is reduced to 40 when we omit synonyms. Of these 40 species, 7 are recorded for the first time in any list dealing specially with the fauna of Barbary, although several had already been noticed by Duméril and Bibron, 'Erpétologie Générale':—

1. *Agama colonorum*, Daud. (=*A. bibronii*, A. Dum.).—From the Chotts in the Province of Oran.
2. *Acanthodactylus lineomaculatus*, D. & B. (originally described from Morocco).
3. *A. scutellatus*, Aud.—From the Souf.
4. *A. boskianus*, Daud.—From Biskra.
5. *Sphenops capistratus*, Fitz. (=*Chalcides sepoides*, Aud.).—From the Souf.
6. *Coluber natrix*, L. (*Tropidonotus*).
7. *Bufo variabilis*, Pall. (=*B. viridis*, Laur.).

7. Guichenot, A. Exploration scientifique de l'Algérie pendant les années 1840–1842. Reptiles. Paris: 1850, 4to. 30 pp., 4 plates.

This work affords but a meagre list of species, and the descriptions have but little original value, being to a great extent compiled from the 'Erpétologie Générale.' And sufficient care was not taken in recording the localities. The following species have to be added to those which we have mentioned before:—

1. *Cistudo europæa*, Schn. (=*Emys orbicularis*, L.).
2. *Lacerta perspicillata*, D. & B.—From Oran.
3. *Acanthodactylus vulgaris*, D. & B.
4. *Bufo vulgaris*, Laur.

Vipera lebetina, L., is described as *Echidna mauritanica*, sp. n.; *Macroprotodon cucullatus*, Geoffr., as *M. mauritanicus*, sp. n.; and *Molge poireti*, Gerv., as *Euproctus rusconii*, Gené, and *Triton nebulosus*, sp. n.

8. Eichwald. Naturhistorische Bemerkungen über Algiers und den Atlas. Nouv. Mém. Soc. Nat. Mosc. (2) ix. 1851. (Rept. and Batr. pp. 414–444.)

This paper contains but a single addition to our list, viz.:—

1. *Agama agilis*, Oliv. (=*inermis*, Reuss).

9. Gervais, P. Sur quelques Ophidiens de l'Algérie. Mém. Ac. Sc. Montpellier, iii. 1857, pp. 511 and 512, pl. v.

Adds 4 species:—

1. *Heterodon diadema*, D. & B. (*Lytorhynchus*).—From the Souf.
2. *Psammophis punctatus*, D. & B.—From the Western frontier of Algeria.
3. *Zamenis florulentus*, Schl. (=*algirus*, Jan).—From Laghouat.
4. *Cœlopeltis productus*, sp. n.—From between Bou-Alem and the Arbas.

10. Günther, A. On the Reptiles and Fishes collected by the Rev. H. B. Tristram in Northern Africa. Proc. Zool. Soc. 1859, pp. 469–474, with notes by Tristram himself, pp. 475, 476.

Enumerates only 12 species, all of which were already on record. *Uromastix spinipes*, Daud., stands for *U. acanthinurus*, Bell, and *Zootoca deserti*, sp. n., for *Acanthodactylus pardalis*, Licht.

The list of "Reptiles of the Sahara" (53 species), which forms Appendix VI. to

11. TRISTRAM, H. B. The Great Sahara: Wanderings South of the Atlas Mountains. London: 1860, 8vo,

is carelessly compiled, and includes the names of many species "not found by the author, but given on the authority of trustworthy local naturalists." And it is to be noticed that the author restricts the term "Sahara" to the High Plateaux and the northernmost part of the desert, using the term "Desert" for the greater portion of what is commonly called the Sahara. This explains how examples of several species which are known not to extend south of the High Plateaux are labelled in the British Museum as from Mr. Tristram's Collection made in the Algerian Sahara. This list contains *Naia haie*?, which has since been found round Biskra by M. Lataste, and, very curiously, a *Salamandra*—? from Tuggurt. However, no information is given as to the source of these entries.

Such was the state of our knowledge of the Herpetological Fauna of Algeria, when Dr. Strauch published an excellent and most conscientious descriptive Catalogue, entitled:—

12. STRAUCH, A. Essai d'une Erpétologie de l'Algérie. Mém. Ac. St. Pétersb. (7) iv. no. 7, 1862, 86 pp.

This work is based upon the previous literature, the collections of the 'Exposition permanente' in Algiers, and the author's own collections made during several months' stay in Algeria. A great many of the species enumerated on the authority of others have to be erased, as based on errors of determination or of localities, so that of the 76 species included in the list only 56 (including two marine Turtles) deserve to stand.

The additions are:—

1. *Euprepes vittatus*, Oliv. (*Mabuia*).—Mzab.
2. *Eryx jaculus*, L.—Oran.
3. *Coronella austriaca*, Laur. (=? *C. amaliæ*, Boettg.).
4. *Zamenis cliffordii*, Schleg. (=*diadema*, Schl.).—Sahara.
5. *Vipera avicennæ*, Alp. (=*Cerastes vipera*, L.).—Western Sahara.
6. *Vipera aspis*, L. (=*latastii*, Boscá).—Algiers.

13. LALLEMANT, C. Erpétologie de l'Algérie. Paris: 1867, 8vo. 41 pp.

This opuscule is principally an abridgment of Strauch's 'Essai," with notes on the author's own collections.

Thus far, with the exception of Gervais's first list, the contributions to our knowledge of the Reptiles and Batrachians of Barbary had dealt merely with Algeria. The first paper containing a special account of the herpetological fauna of Morocco was published in 1874:—

14. Boettger, O. Reptilien von Marocco und von den Canarischen Inseln.—I. Uebersicht der von den Herren Dr. C. von Fritsch und Dr. J. J. Rein im Jahre 1872 in Marocco gesammelten Reptilien. Abh. Senckenb. Ges. ix. 1874, pp. 121–170, pl. i. (With Appendix, *op. cit.* xi. 1877, p. 1, footnote.)

19 Reptiles and 1 Batrachian are therein described, and by adding the species previously noticed by Gervais and in various general works, the total number of Moroccan Reptiles is raised to 24, of Batrachians to 3, the following being the additions:—

1. *Gymnodactylus trachyblepharus*, sp. n.
2. *Seps mionecton*, sp. n. (*Chalcides*).
3. *Coronella girondica*, Daud.
4. *Vipera arietans*, Merr.—(Valley of Sous.)
5. *Naia haie*, L. (*fide* A. Dum.).
6. *Pleurodeles waltlii*, Mich. (*fide* Schreiber) (*Molge*).

A short paper by

15. Camerano, L. Osservazioni intorno agli Anfibi Anuri del Marocco. Atti Acc. Torin. xiii. 1878, pp. 542–558,

contains descriptions of *Rana esculenta*, L., *Discoglossus scovazzii*, sp. n. (=*D. pictus*), *Bufo vulgaris*, Laur., from Larache, new to Morocco, *B. pantherinus*, Boie (=*B. mauritanicus*), and *Hyla arborea*, L., from specimens collected by the Italian Consul Scovazzi at Tetuan, Tangier, Larache, Casablanca, Babat, Masagan, Saffi, Mogador.

With M. Lataste's excursions to Algeria in 1880 and 1881 a fresh era was started. Large collections were made both north and south of the Atlas; the discrimination of species was subjected to a severe test upon fresh material; and an investigation into the literature resulted in the elimination of several forms unduly recorded as from Algeria, the amalgamation of certain species previously regarded as distinct, the separation of others previously confounded, the discovery of altogether new forms, and above all in a much clearer understanding of the distribution of the various forms, as will be apparent on comparing the present Catalogue with that of Dr. Strauch.

As stated in the introduction, M. Lataste was prevented from putting his documents into final shape, and his published contributions are merely the following:—

16. Lataste, F. Descriptions de Reptiles nouveaux d'Algérie. Le Naturaliste, i. 1880 and 1881.

Zerzoumia blanci, sp. n., p. 299 (1880).
Ptyodactylus oudrii, sp. n., p. 299 (1880).
Lacerta ocellata pater, subsp. n., p. 306 (1880).
Agama tournevillei, sp. n., p. 325 (1880).
Acanthodactylus bedriagai, sp. n. (=*A. pardalis*, Licht.), p. 357 (1881).
Glossoliga hagenmuelleri, sp. n., p. 371 (1881).

Also recording for the first time the presence of *Ophiops* and *Naia haie* in Algeria, and giving notes on a supposed *Simotes*? in the collection of the 'Exposition permanente.' The latter snake, which is possibly not from Algeria, I have been unable to identify from M. Lataste's notes, unless it be a dark variety of *Zamenis gemonensis* (*viridiflavus*).

17. Lataste, F. Liste des Vertébrés recueillis par M. le Dr. André pendant l'expédition des Chotts. Arch. Miss. Sc. (3) vii. 1881, pp. 398–400.

A list of 22 species obtained in Southern Tunisia and the neighbouring part of Algeria by the Roudaire expedition.

18. Boettger, O. Liste der von Herrn Dr. W. Kobelt in der Prov. Oran, Algerien, gesammelten Kriechthiere. Ber. Senckenb. Ges. 1880–81, pp. 145–147.

Notices 13 species, among which *Coronella girondica* and *Bufo vulgaris* from Tlemsen are of special interest.

Turning his attention once more to the Reptiles of Morocco, Dr. Boettger supplies a most valuable contribution:—

19. Boettger, O. Die Reptilien und Amphibien von Marocco. II. Abh. Senckenb. Ges. xiii. 1883, pp. 93–146, pl. i.

Based chiefly upon collections brought together by Lieut. Quedenfeldt and Dr. W. Kobelt. Leaving out 4 species which Boettger introduces on the authority of other authors and which should evidently be erased, we see that the list of Moroccan Reptiles has risen to 37 species, of which the following are recorded for the first time:—*Rhinechis amaliæ*, sp. n. (*Coronella*), *Vipera euphratica*, Mart., var. *mauritanica*, D. & B. (=*V. lebetina*, L.), *Vipera latastii*, Boscá, *Lacerta muralis*, Laur., *Algira microdactyla*, sp. n. (*Psammodromus*), *Podarces simoni*, sp. n. (=*Eremias guttulata*, Licht.), *Pseudopus apus*, var. n. *ornata* (=*Ophisaurus koellikeri*, Gthr.), and *Bufo viridis*, Laur.

20. Boettger, O. Liste der von Hrn. Dr. W. Kobelt in Algerien und Tunisien gesammelten Kriechthiere. Appendix to W. Kobelt, Reiseerrinerungen aus Algerien und Tunis. Frankfurt/M.: 1885, 8vo, pp. 457–475.

Notes on 30 species, all previously recorded from Algeria and Tunisia.

21. Boulenger, G. A. On the Reptiles and Batrachians obtained in Morocco by Mr. Henry Vaucher. Ann. & Mag. N. H. (6) iii. 1889, pp. 303–307.

A list of 23 species from the vicinity of Tangier.

New to Morocco:—*Lacerta ocellata*, var. *tangitana*, Blgr., *Chalcides lineatus*, Leuck., *Salamandra maculosa*, Laur.

Catalogue of the Reptiles and Batrachians.

REPTILIA.

The Reptiles with which we have to deal in this Fauna belong to two Orders:—

I. **CHELONIA,** Tortoises and Turtles, in which the body is encased in a bony shell and the jaws are destitute of teeth.

II. **SQUAMATA,** Lizards, Chameleons, and Snakes, with the body covered with scales and the jaws armed with teeth. They are divided into three Suborders.

Order I. CHELONIA.

Apart from the Marine Turtles, three genera of Chelonia, each represented by a single species, occur in Barbary, which are easily distinguished:—

Limbs club-shaped; terrestrial	1. Testudo.
Digits webbed; aquatic.	
Plastron connected with the carapace by ligament	2. Emys.
Plastron united with the carapace by suture	3. Clemmys.

All three of which belong to a single family.

Fam. 1. TESTUDINIDÆ.

1. Testudo, Linnæus, 1766.

Shell very convex. Head covered with horny shields. Alveolar surface of upper jaw with ridges. Limbs club-shaped. Terrestrial and herbivorous.

1. Testudo ibera, Pallas, 1831.

T. græca, Poiret, Rozet.—*T. mauritanica*, Guichenot.—*T. pusilla*, Strauch.

Supracaudal marginal shield undivided, never spread out and subhorizontal. Hind lobe of plastron movable in the adults; suture between the humeral plastral shields much longer than that between the pectorals; suture between the anal shields nearly as long as, or longer than, that between the humerals. Anterior face of fore limbs with large imbricate scutes, forming four or five longitudinal and five or six transverse series; a large convex or subconical tubercle on the hind side of the thigh. Carapace of young yellowish or pale olive, each shield spotted and bordered with black; the black spots more irregular and predominating in the adult; some specimens uniform brownish or olive; plastron more or less spotted with black.

Length of shell 23 centim.

Common throughout the Tell, from Morocco to Tunisia; also found on the Algerian Plateaux, and even further south in Tunisia. M. Lataste found it at Palestro, Misserghin (Oran), Aumale, Guyotville (Algiers), Salah-Bey (Constantine), and Bou-Saada, in Algeria; at Zarzis and the ruins of Utique in Tunisia. It also inhabits South-western Asia.

For good figures of this tortoise we may refer to Bell's 'Monograph of the Testudinata' (sub nom. *T. græca*), and to Lortet, Arch. Mus. Lyon, iv. 1887, pl. i.

Old specimens have been taken for the allied *T marginata*, Schoepff, s. *campanulata*, Strauch (by Gervais and Lallemant), the habitat of which appears to be restricted to Greece.

2. EMYS, Duméril, 1806.

Shell depressed. No shields on the head. Alveolar surface of upper jaw without ridges. Digits distinct, webbed. Plastron joined to carapace by ligament, and divided into two movable lobes in the adult. Aquatic and carnivorous.

1. EMYS ORBICULARIS, Linnæus, 1766.

Cistudo europæa, Guichenot.—*C. lutaria*, Strauch.

Carapace with yellowish dots or radiating lines on a dark ground; head dark brown or black above, with yellow or pale brown dots, yellow inferiorly, spotted with black.

Length of shell 19 centim.

Inhabits Southern and Eastern Europe, Western Asia, and Algeria north of the Atlas. In spite of Guichenot's statement that it is found in all the rivers of Algeria, a statement evidently due to a confusion with *Clemmys leprosa*, this tortoise is very locally distributed in Algeria, the only specimens examined by M. Lataste having been obtained by Dr. Hagenmüller near Bona. Lallemant records it from Harrach, Lake Fetzara, and Wed Sebaon.

Figures: Bonaparte, Faun. Ital. (*Emys lutaria*), and Lortet, Arch. Mus. Lyon, iv. 1887, pl. vi.

3. CLEMMYS, Wagler, 1830.

Shell depressed. No shields on the head. Alveolar surface of upper jaw without ridges. Digits distinct, webbed. Plastron without hinge, united to carapace by suture. Aquatic and carnivorous.

1. Clemmys leprosa, Schweigger, 1814.

Emys vulgaris, Schlegel.—*E. sigriz,* Guichenot.

Carapace dark olive in the young, with an oval orange spot or short longitudinal streak on each shield; uniform olive, or with traces of the orange spots in the adult. Head olive, sides with orange or yellow streaks or vermiculations, and a round orange spot between the eye and the ear, and a more or less defined ring of the same colour round the latter. Neck and limbs with orange or yellow streaks. These bright markings become very indistinct in old specimens.

Length of shell 20 centim.

Inhabits the South of Spain and Portugal, Barbary, and Senegambia. Common throughout Morocco, Algeria, and Tunisia as far as the northern border of the Sahara. M. Lataste's Algerian specimens are from the Wed Zig, near Oran (where he found it in extraordinary abundance), L'Arba, Bona, Batna, and Bou-Saada; he found it in Tunis at Cabes, and his colleague M. Valéry-Mayet at Wed Leben and Gafsa.

Figures: Gray, Cat. Sh. Rept. i. pl. ix., and Proc. Zool. Soc. 1860, pl. xxx., 1869, pls. xxxvii. & l.

Order II. SQUAMATA.

Divided into three Suborders:—

I. LACERTILIA, *Lizards.*—Nasal bones entering the border of the nasal apertures; pterygoid in contact with quadrate; mandibular rami united by suture. Pectoral arch or its vestiges present; clavicle present whenever the limbs are developed. Tongue flattened.

II. RHIPTOGLOSSA, *Chameleons.*—Nasal bones not bounding nasal apertures; pterygoid not reaching quadrate; mandibular rami united by suture. Clavicle absent; limbs well developed. Tongue vermiform, projectile.

III. OPHIDIA, *Snakes.*—Nasal bones bounding nasal apertures; mandibular rami connected by ligament. No trace of pectoral arch. Tongue flattened and bifid at the end, and sheathed at the base.

Suborder I. *LACERTILIA.*

The Lizards of Barbary belong to seven Families, distinguishable as follows:—

I. Tongue smooth or covered with villiform papillæ, feebly nicked at the end, not retractile into a basal sheath.

Head covered with small scales; eyes without movable lids, with vertical pupil . . . . 1. **Geckonidæ.**

Head covered with small scales; eyes with movable lids, with round pupil . 2. **Agamidæ.**

Head with symmetrical shields . . . . 3. **Anguidæ.**

II. Tongue very long and slender, bifid, retractile into a basal sheath . . 4. **Varanidæ.**

III. Tongue bifid, covered with rhomboidal, imbricate papillæ; head with symmetrical shields.	
Body vermiform; eyes hidden	5. **Amphisbænidæ.**
Femoral pores	6. **Lacertidæ.**
No femoral pores; scales cycloid, imbricate	7. **Scincidæ.**

Fam. 1. GECKONIDÆ.

The 8 genera by which this family is represented in Barbary may be distinguished by means of the following key:—

I. Digits not dilated.	
A. Digits straight, of equal diameter throughout.	
1. Digits denticulated laterally and keeled inferiorly.	
Scales small	1. Stenodactylus.
Scales large and imbricate	2. Tropiocolotes.
2. Digits not denticulated laterally, with smooth lamellæ inferiorly	3. Saurodactylus.
B. Digits flattened at the base, compressed at the end	4. Gymnodactylus.
II. Digits dilated at the apex only.	
Digital expansion inferiorly with two plates	5. Phyllodactylus.
Digital expansion inferiorly with two diverging series of lamellæ	6. Ptyodactylus.
III. Digits dilated at the base or throughout.	
All the digits clawed, the claw supported by a free, compressed joint; subdigital lamellæ in pairs	7. Hemidactylus.
Third and fourth digits with a sessile claw; subdigital lamellæ entire	8. Tarentola.

1. Stenodactylus, Fitzinger, 1826.

Digits not dilated, furnished with a long claw, and a lateral fringe or denticulation of pointed scales; inferiorly with a series of keeled scales. Scales juxtaposed or sub imbricate. Pupil vertical. No præanal or femoral pores.

Sand-Geckos, represented by one species in Algeria and Tunisia.

1. Stenodactylus guttatus, Cuvier, 1829.

S. mauritanicus, Guichenot.

Head very variable in shape; snout rounded or more or less pointed. Body short, limbs long and slender. Body covered with subequal granules, which may be convex, smooth, or slightly keeled, or flat and subimbricate on the back; the size of these granules varies considerably. Nostril pierced in the middle of a more or less distinct swelling, between three nasals, the first labial, and usually also the rostral; no chin-shields. Tail covered with small juxtaposed keeled scales. Light buff or brownish above, with round whitish spots between a brown network, sometimes with ill-defined brown cross-bands; tail with brown annuli; white inferiorly.

From snout to vent 58 millim., tail 40.

Material received since the publication of the British Museum Catalogue of Lizards induces me to adopt M. Lataste's view (*in litt.*) that *S. wilkinsonii*, Gray, which I ventured to keep distinct from *S. guttatus*, and which has since been recorded from Batna by Dr. Strauch, is not specifically distinct. In fact the variations, both of scaling and of proportions, are as great in this species, and of the same kind, as in *Ptyodactylus lobatus*. The form that I regard as the typical *S. guttatus* has a moderately pointed snout, the dorsal granules are rather large, convex and coarsely granular, the rostral shield enters the nostril, and the hind limb reaches barely the axil. Stouter specimens with shorter snout have been named *S. mauritanicus*. In Gray's *S. wilkinsonii* the snout is more pointed, the dorsal scales flat and subimbricate, the rostral is excluded from the nostril, and the hind limb reaches the shoulder. All these differences, however, break down, as specific characters, on examination of large series of specimens, and I do not even see my way to distinguishing the three forms as varieties. A specimen from Bou-Saada, collected by M. Lataste, has the short head and short limbs of *S. mauritanicus*; the dorsal scales very small, flattish, smooth, but not imbricate; and the nostril well separated from the rostral.

Stenodactylus guttatus ranges from the Algerian Sahara to Egypt, Arabia, and Syria. It extends also into the Algerian Plateaux (Batna, *Strauch*; Bou-Saada, *Lataste*). M. Lataste found it at Wed Dermel, Laghouat, and Bou-Saada, and received specimens from Mraier and Wargla. Gervais records it from the Souf, and Guichenot from the province of Oran. Dr. André obtained it in the region of the Chotts, at Bir Knafes and Bled Berrada. In Tunisia, M. Lataste found it at Houmt-es-Souk (Djerba Island) and at Wed el Ftour (south of Cabes), and his colleagues M. Valéry-Mayet at Sfax, Kerkenna Island, and Bou-Hedma, and M. Sédillot at Feriana and Gafsa and Kriz.

Good figures of this species are given in the Expédition d'Egypte, Rept. pl. v. fig. 2, and by Guichenot in Explor. Alg., Rept. pl. i. fig. 1.

2. TROPIOCOLOTES, Peters, 1880.

Digits not dilated, furnished with a long claw, and denticulated laterally; inferiorly with a series of keeled scales. Scales rather large and imbricate. Pupil vertical. No præanal or femoral pores.

This genus comprises two species:—*T. tripolitanus*, from Tunisia and Tripoli, and *T. steudneri* (*Gymnodactylus steudneri*, Peters, 1869, *Stenodactylus petersii*, Blgr., 1885), from Egypt and the Sennaar.

1. TROPIOCOLOTES TRIPOLITANUS, Peters, 1880.

Body and limbs rather slender, covered with imbricate, rhomboidal, keeled scales; 42 to 44 scales round the middle of the body. Nostril pierced between the rostral, the first labial, and three nasals; mental followed by a pair of chin-shields. Tail tapering to a fine point, and considerably longer than head and body Colour above sandy, with small brown spots; a brown streak on the side of the head and neck, passing through the eye; lower parts white.

From snout to vent 66 millim., tail 38.

The type specimens are from Wadi M'bellem, Tripoli. The same Lizard has since been found in Tunisia; one specimen at Taferma by M. Letourneux, one between Cabes and Gafsa by M. Sédillot, one at Oum-ali, near Gafsa, and another at Bou Hedma by M. Valéry-Mayet.

Described in detail and figured by Peters, Mon. Berl. Ac. 1880, p. 306, pl. —. fig. 1.

3. Saurodactylus, Fitzinger, 1843.

Digits not dilated, clawed, not denticulated laterally, inferiorly with a series of smooth lamellæ. Dorsal scales small, subimbricate. Pupil vertical. No femoral or præanal pores.

This genus is very closely allied to *Tropiocolotes*, differing mainly in the smooth subdigital lamellæ, the absence of a distinct lateral digital denticulation, and the smaller dorsal scales. A single species is known, which was formerly referred to the genus *Gymnodactylus*.

1. Saurodactylus mauritanicus, Dum. & Bibr., 1836. (Plate XIII. fig. 1.)

Habit lacertiform. Snout subacuminate; ear-opening small, roundish-subtriangular. Nostril pierced between the rostral, the first labial, and three nasals; five or six upper and four or five lower labials; mental followed by a pair of chin-shields. Scales on the head small and granular, the granules largest on the snout; dorsal scales small, smooth, flat, roundish, subimbricate, increasing in size towards the belly, where they are large, roundish-hexagonal, and imbricate; about 70 scales round the middle of the body. Tail a little longer than head and body, tapering to a fine point; caudal scales cycloid-imbricate, with the median inferior series transversely enlarged. Grey-brown above, with small white dark-edged ocelli; a dark brown streak on the side of the head, passing through the eye; lower parts white; tail yellowish with brown spots, or brownish with round yellow spots.

From snout to vent 30 millim.

This species is now represented in the British Museum by seven specimens collected at Mogador by Lieut. Quedenfeldt. Boettger has recorded it from Djebel Hadid, near Mogador, from between Mogador and Morocco, and from the Plateau of Chiodma. Duméril and Bibron's statement that the type specimen came from Algiers requires confirmation. Two specimens were obtained at Nemours (Prov. Oran) by M. Gazagnaire in 1888, and are now in M. Lataste's collection. Strauch saw specimens from the Algerian Sahara in the Loche collection, and F. Müller records the species from the Plateau of Serson, in the Province of Algiers.

4. Gymnodactylus, Spix, 1825.

Digits not dilated, clawed, not denticulated, cylindrical or depressed at the base, compressed in the distal portion, which forms an angle with the basal; inferiorly with a series of smooth lamellæ. Dorsal scales juxtaposed. Pupil vertical. Males usually with femoral or præanal pores.

This large genus is represented in Barbary by a single species from South-western Morocco.

1. Gymnodactylus trachyblepharus, Boettger, 1874.

Head much depressed; snout rounded, a little longer than the distance between the eye and the ear-opening; latter transversely oval. Limbs rather slender; digits elongate, depressed in the basal, compressed in the distal portion. Above uniformly and finely granular, the granules largest on the snout; upper eyelid with several projecting triangular scales on its free border; rostral pentagonal, nearly twice as broad as deep, with median cleft above; nostril between the rostral, the first labial, and four nasals; seven upper and six lower labials; mental large, subtriangular; no regular chin-shields. Ventral scales large, hexagonal, subimbricate. Tail slender, depressed, covered above with uniform small scales, beneath with a median series of enlarged transverse plates. Greyish olive above, whitish beneath; tail with rather indistinct yellowish cross-bands.

From snout to vent 40 millim., tail 57.

A single specimen is known, from Djebel Hadid, near Mogador, which, thanks to Dr. Boettger's courtesy, I have been able to examine.

Figured by Boettger, Abh. Senck. Ges. ix. 1874, pl. i. fig. 3.

5. Phyllodactylus, Gray, 1830.

Digits all clawed, the extremity dilated, with two large plates inferiorly separated by a longitudinal groove in which the claw is retractile. Pupil vertical. No præanal or femoral pores.

1. Phyllodactylus europæus, Gené, 1839.

Upper surfaces covered with equal small smooth granules; no regular chin-shields, but very small polygonal scales passing gradually into the minute granules of the throat. Tail prehensile, covered with equal small squarish scales. Grey-brown above, marbled with darker and dotted with lighter; a more or less distinctly marked dark streak on the side of the head, passing through the eye; lower parts whitish.

From snout to vent 40 millim., tail 30.

This small Gecko inhabits many of the Islands of the Mediterranean west of Italy, and was found on Galita by Marquis Doria.

Figured in Bonaparte's 'Fauna Italica.'

6. Ptyodactylus, Gray, 1825.

Digits all clawed, the extremity dilated, with two diverging series of lamellæ inferiorly disposed somewhat like a fan; the claw retractile in the anterior notch of the distal expansion. Pupil vertical. No præanal or femoral pores.

1. Ptyodactylus lobatus, Geoffroy, 1809. (Plate XIII. fig. 2.)

Head large; body rather short; limbs long and slender. Upper surface of body and limbs covered with granules intermixed with small keeled tubercles; lower surfaces with flat smooth scales. Tail slender, tapering. Greyish or yellowish brown above, spotted with darker; lower parts white.

Ranges from Algeria to Egypt, Nubia, Arabia, and Syria.

In Algeria this species is found in the stony Sahara, and in the southern parts of the Plateaux. M. Lataste collected specimens at Ghardaia, Laghouat, Bou-Saada, between Bou-Saada and Biskra, and between Biskra and Batna, and received a specimen from Djenian bon Resk, near Oran, through Dr. Maury. Dr. Strauch also records it from Batna ('Bemerk. über die Geckoniden-Samml. St. Petersb. Mus.' p. 35, 1887).

The following is M. Lataste's description of Algerian specimens, for which he proposed in 1880 the name *P. oudrii*:—"Smaller and less slender than the Egyptian *Ptyodactylus*. When the arm is stretched forwards in the latter, the wrist reaches the nostril, whilst in the new species it reaches only midway between the eye and the nostril. When the hind limb is stretched forwards the heel reaches the axil in the former, but far from it in the latter. Length of the head twice in the length of the trunk in *P. oudrii*, twice and a half in the other species. The largest specimen measures: head 17 millim., from snout to vent 55, tail 57. Scaling generally coarser in *P. oudrii*, the granules as well as the tubercles larger. The ventral scales, very small and almost granular in the Egyptian species, are comparatively large, distinctly hexagonal, and quite flat in the Algerian; this difference particularly conspicuous on the lower belly, where, as well as under the thigh and leg, the scales reach a considerable size in *P. oudrii*, comparable to that of the sublabials and chin-shields. In the Egyptian species the chin-shields are immediately followed by minute granules, smaller than on the breast, whilst in *P. oudrii* the anterior gulars are larger than the following, which gradually decrease in size. Finally I count 10 distinct sublabials in the Egyptian species, and only 7 or 8 in the Algerian."

I am, however, unable to agree with my friend in separating these Algerian specimens as a distinct species. The difference in the number of lower labials does not hold good. There is every gradation between *P. oudrii* and *P. lobatus*, and some Syrian specimens are undistinguishable from the former, except in their larger size. I think the following notes, taken from all the specimens in the British Museum, are sufficient to show that *P. oudrii* cannot be regarded as more than a variety of *P. lobatus*.

1–5. ♂ & hgr. Bou-Saada (*Lataste*). Types of *P. oudrii*.
Labials $\frac{11}{10}$, $\frac{12}{11}$, $\frac{11}{10}$, $\frac{10}{10}$, $\frac{12}{11}$.

	millim.	millim.	millim.	millim.	millim.
From snout to vent	57	53	47	44	39
Head	16	15	14	13	12
Fore limb	22	21	21	19	16
Hind limb	29	29	27	25	22

6 & 7. ♂ & hgr. Egypt (*Wilkinson*). Typical *P. lobatus*.

Form slender, nostril in a very distinct swelling. Scaling finer than in *P. oudrii*, head less depressed, eye larger, auricular meatus more elongate. Wrist reaching halfway between the eye and the nostril (6) or the tip of the snout (7); heel to the axil (7) or not quite so far (6). Labials $\frac{12}{12}$, $\frac{12}{12}$.

	millim.	millim.
From snout to vent	73	47
Head	21	10
Fore limb	36	25
Hind limb	47	33

8. ♂. Egypt (*Burton*).

Similar to the preceding, but dorsal tubercles larger, quite as large as in *P. oudrii*. Wrist to the nostril, heel to axil. Labials $\frac{13}{12}$.

	millim.
From snout to vent	75
Head	21
Fore limb	36
Hind limb	48

9. ♀. Egypt (*Christy*).

Like 6 & 7, but the shape of the head approaching that of *P. oudrii*, and the nasal swelling less marked. Wrist halfway between the eye and the nostril; heel to $\frac{4}{5}$ the distance between groin and axil. Labials $\frac{11}{11}$.

	millim.
From snout to vent	64
Head	18
Fore limb	27
Hind limb	38·5

10. ♀. Mt. Edfou, Egypt (*Anderson*).

Like the preceding. Labials $\frac{12}{11}$.

	millim.
From snout to vent	58
Head	16
Fore limb	25
Hind limb	34

11. ♀. Mt. Sinai.

Like 6 & 7. Wrist not quite to the nostril; heel nearly to the axil. Labials $\frac{12}{12}$.

	millim.
From snout to vent	70
Head	20
Fore limb	33
Hind limb	44

12. ♀. Muscat, Arabia (*Murray*).

Like the preceding. Wrist to halfway between the eye and the nostril; heel to the axil. Labials $\frac{12}{12}$.

	millim.
From snout to vent	80
Head	24
Fore limb	35
Hind limb	51

13. ♀. Dead Sea (*Tristram*).

Shape of the head intermediate between *P. lobatus*, typ., and *P. oudrii*; eye very large; ear as in *P. oudrii*. Scaling as in *P. lobatus*, typ. Wrist to halfway between the eye and the end of the snout; heel to axilla. Labials $\frac{13}{13}$.

	millim.
From snout to vent	64
Head	19
Fore limb	30
Hind limb	42

14. ♂. Mt. Carmel (*Tristram*).

Agrees in every respect, except size, with *P. oudrii*; the ear-opening is, however, a little more elongate. Labials $\frac{12}{11}$.

	millim.
From snout to vent	77
Head	24
Fore limb	37
Hind limb	49

15. ♀. Jerusalem (*Tristram*).
Like the preceding, but tubercles smaller. Labials $\frac{13}{12}$.

	millim.
From snout to vent	84
Head	25
Fore limb	39
Hind limb	50

16. ♀. Jerusalem (*Anderson*).
Like 14, but the heel reaches the axil. Labials $\frac{13}{12}$.

	millim.
From snout to vent	77
Head	23
Fore limb	39
Hind limb	51

17. ♀. Galilee (*Anderson*).
Agrees with *P. oudrii*, but ventral scales a little smaller, and limbs shorter still. Wrist to the anterior border of the eye, and knee hardly to $\frac{3}{4}$ the distance between groin and axil. Labials $\frac{11}{10}$.

	millim.
From snout to vent	64
Head	19
Fore limb	25
Hind limb	36

18. ♂. Between Khan Tubb Tusef and Ain Mellaha, Palestine (*Anderson*).
Like with the preceding. Labials $\frac{12}{11}$.

	millim.
From snout to vent	66
Head	20
Fore limb	27
Hind limb	36

The typical form is figured by Savigny, Descr. de l'Egypte, Suppl. pl. i. fig. 2. We have figured the Algerian form from one of the type specimens of *P. oudrii*, on Plate XIII. fig. 2.

7. HEMIDACTYLUS, Gray, 1825.

Digits free, or more or less webbed, dilated, inferiorly with two rows of lamellæ; all the digits with slender distal clawed joints angularly bent and rising from within the extremity of the dilated portion. Pupil vertical. Males with præanal or femoral pores.

1. Hemidactylus turcicus, Linnæus, 1766.

Hemidactylus verruculatus, Gervais, Guichenot.—*H. cyanodactylus,* Strauch.

Upper surface of body granular, with 14 to 16 longitudinal series of trihedral tubercles; tail with transverse series of large keeled tubercles above. Males with 4 to 10 præanal pores. Light brown or greyish above, spotted with darker; many of the tubercles white; white beneath.

From snout to vent 53 millim.

Found all round the Mediterranean and the coast of the Red Sea, and extending eastwards to Persia and Sind, but not yet recorded from Morocco. It is not very common in Algeria. M. Lataste collected specimens near Oran, Algiers, Beni Mansour. and Bona, and Dr. Kobelt at Biskra. In Tunisia M. Lataste found it at Djebel Rezaz and Zarzis, M. Valéry-Mayet at Sfax, Kerkenna, and Thala, and Marquis Doria on Galita.

The best figure of this species is that given in Bory de St. Vincent's 'Expédition de Morée,' Rept. pl. xi. fig. 2.

8. Tarentola, Gray, 1825.

Digits strongly dilated, free, with undivided lamellæ below, and a flat nail-like scute on their upper surface near the tip; third and fourth clawed, others clawless. Pupil vertical. No femoral or præanal pores.

Two species in Barbary.

1. Tarentola mauritanica, Linnæus, 1766. (Plate XIII. fig. 3.)

Platydactylus fascicularis, Rozet, Gervais.—*P. muralis,* Guichenot.—*P. facetanus,* Strauch.

Head large, with swollen temples, covered above with large convex, usually obtusely keeled scales, 13 to 15 in a transverse line between the eyes; temple with enlarged tubercles; anterior border of ear-opening not denticulated; sides of neck with rosettes of large conical tubercles surrounded with smaller ones. Dorsal region granular, with transverse series of large, strongly keeled, subtrihedral, very prominent tubercles, surrounded by smaller ones; sides with rosettes of conical tubercles. Gular scales much smaller than ventrals; mental shield large, separating the chin-shields, the inner of which are as much developed as the labials. A more or less distinct fold along each side of the belly. Digits strongly dilated at the end. Anterior part of tail with posteriorly directed spine-like tubercles. Grey or grey-brown above, more or less distinctly spotted or marbled with blackish and whitish, or with undulous dark transverse bands on the back; a more or less distinct dark streak on each side of the head, passing through the eye; tail above with dark cross-bands; lower parts white.

From snout to vent 70 to 80 millim.

Saharian specimens (var. *deserti,* Lataste, *in litt.*) are distinguished by a larger size, measuring up to 103 millim. from snout to vent, a somewhat longer and more pointed head, finer granulations between the tubercles and on the throat, and the very pale, yellowish-white coloration, without or with very indistinct pale brown spots.

This Gecko, common all round the Mediterranean, is found all over Barbary, north and south of the Atlas; it frequents houses, old walls, and cliffs.

The typical form is figured in Bonaparte's 'Fauna Italica,' and the var. *deserti* on Plate XIII. fig. 3 of this Memoir.

2. TARENTOLA NEGLECTA, Strauch, 1887.

T. angusticeps, Strauch, 1887.

This species, which in its physiognomy reminds somewhat of *Hemidactylus turcicus,* was recognized as distinct by Lataste, whose description was, however, anticipated by that of Strauch.

The head is smaller than in *T. mauritanica,* the temples usually less swollen, and the scales on its upper surface larger, smooth or feebly keeled; 10 to 12 scales in a transverse line between the eyes; tubercles on the temple small and feebly prominent. All the tubercles on the back, the sides of the neck and body, and on the limbs much less prominent, never conical; and the dorsals are entirely isolated, not surrounded by smaller ones; the granules between the tubercles larger. Lateral ventral fold absent or very indistinct. Digits less dilated, with subparallel lateral borders. Caudal tubercles less developed. Pale brownish or yellowish white above, without or with small brown spots or interrupted longitudinal lines; head usually with four to six brown longitudinal lines, most distinct on the snout; tail with more or less distinct darker cross-bands; lower parts white.

This is a small species, the largest of many examples examined by M. Lataste measuring 53 millim. from snout to vent; the usual length is 45 millim. from snout to vent, tail 50.

T. neglecta was found in abundance by Lataste in the sandy Sahara in Algeria between El Mala and Arifji, and at Wargla, on old palm-trees, never about houses or walls like its larger congener. I have also received a specimen from Kef el Dhor, between Biskra and Tuggurt. It would appear, however, that the species occurs also on the Plateaux, for Dr. Strauch's specimens were purchased as from Batna.

Figured by Strauch, "Bemerk. üb. d. Geckoniden-Sammlung Zool. Mus. St. Petersb." (Mém. Ac. St. Pétersb. xxxv. 1887, no. 2), pl. —. figs. 1–4.

Fam. 2. AGAMIDÆ.

Two genera in Barbary:—

Tail round or feebly compressed; no femoral pores	1. AGAMA.
Tail short, depressed, covered with whorls of large spinose scales; femoral pores	2. UROMASTIX.

1. Agama, Daudin, 1802.

Tail round or feebly compressed. No femoral pores; males with callose præanal scales.

Of this African and South-west Asian genus three species occur in Barbary:—

A. Third toe much shorter than fourth, fifth not extending as far as first; occipital scale not enlarged; ear-opening smaller than eye-opening.
  Dorsal scales unequal; head not or but slightly longer than broad; tail cylindrical; male without gular pouch . . . . 1. *inermis.*
  Dorsal scales equal; head longer than broad; tail compressed; male with a large gular pouch . . . . 2. *tournevillii.*
B. Third and fourth toes equal, fifth extending beyond first; occipital considerably larger than the surrounding scales; ear-opening larger than the eye-opening . 3. *bibronii.*

1. Agama inermis, Reuss, 1834.

A. agilis, Eichwald, Strauch.—*A. ruderata,* Strauch.—*A. mutabilis,* Lataste.

Head very short, not or but slightly longer than broad. Nostril directed upwards and backwards, pierced on the canthus rostralis in the posterior part of a flat nasal. Upper head-scales convex, smooth or very slightly keeled; occipital not enlarged; usually a few scattered small spinose scales on the back of the head; a fringe of small spinose scales on the upper edge of the ear, which is smaller than the eye-opening. Male without, or with only an indication of, a gular pouch. Body depressed, covered above with unequal, rhomboidal, imbricate, keeled, more or less mucronate scales; ventral scales smooth or feebly keeled. Limbs moderate; tibia as long as the skull, or a little shorter; third finger shorter than fourth, fifth not extending as far as second; third toe much shorter than fourth, fifth not extending as far as first. Tail about twice as long as the distance from gular fold to vent, rounded, covered with equal keeled scales. Male with a double row of anal pores. Grey-brown or sandy coloured above, with or without more or less distinct quadrangular dark grey, brown, or reddish spots arranged symmetrically on the back; some of the larger scales may be lighter; lower parts white; the breeding male's throat with blue longitudinal lines, or blue with white spots.

From snout to vent 90 millim., tail 130.

This species varies considerably in the scaling of the back, a large series of specimens showing almost every transition between a nearly equal lepidosis and one in which the enlarged scales, scattered far apart, are as much as three or four times as large as the others. Such extremes are, however, not of frequent occurrence.

Numerous specimens were obtained by M. Lataste in the Algerian Sahara at Biskra, Hadjira, Wargla, in the Mzab at Tibremt, Laghouat, Bou-Saada, and on the High Plateaux at Msila; by Dr. André in the district of the Tunisian Chotts; in Tunisia by

M. Lataste at Sidi Guenao, on the hills between Limagues and Kebili, at Tamesmida, Bir-el-Ahmar, Zarzis, Sidi Haïch, El Hammam des Beni Zid, Nebech el Dib, Wed Zitouna, and Gafsa.

The range of *A. inermis* extends eastwards to Egypt.

A good figure accompanies Reuss's description, Mus. Senckenb. i. 1834.

2. Agama tournevillii, Lataste, 1880. (Plate XIII. fig. 4.)

Habit more slender than in the preceding. Head one fourth longer than broad, snout sloping gradually. Nostril directed upwards and backwards, pierced on the canthus rostralis in the posterior part of a small flat nasal. Upper head-scales smooth, convex; occipital not enlarged; no spinose scales; a very slight fringe of pointed scales on the upper border of the ear, which is smaller than the ear-opening. Male with a large gular pouch. Body not or but feebly depressed, covered above with equal, rhomboidal, strongly keeled, not mucronate scales; lateral and ventral scales a little smaller, strongly keeled. Tibia a little shorter than the skull; third finger slightly shorter than fourth, fifth not extending quite as far as first; third toe much shorter than fourth, fifth not extending quite as far as first. Tail twice and a half as long as the distance from gular fold to vent, distinctly compressed, covered with equal keeled scales. Male with a row of anal pores. Sandy coloured above; a transverse brown band between the eyes, two longitudinal ones from the occiput along the nape, and two others on each side of the head; back with regular longitudinal series of quadrangular transverse brown spots separated by rather indistinct longitudinal light lines; tail with dark annuli; lower parts white; gular pouch grey.

From snout to vent 94 millim., tail 162.

Only two specimens are known, a female collected by M. Lataste at Wargla, and a male, labelled "Sahara," which has been for many years in the British Museum. The latter differs from the former in the less depressed body, the slightly larger dorsal scales, the rather larger ear-opening, and the presence of a gular sac.

3. Agama bibronii, A. Duméril, 1851. (Plate XIV. fig. 1.)

A. colonorum, Gervais, Guichenot, Strauch.

Head a little longer than broad. Nostril tubular, directed outwards and backwards, pierced just below the canthus rostralis. Upper head-scales smooth or indistinctly keeled; occipital scale considerably larger than the surrounding ones; eleven to fourteen upper labials; sides of head and neck with groups of spines; ear-opening larger than the eye-opening. Throat strongly plicate; no gular pouch. Body depressed, covered above with large, rhomboidal, mucronate, imbricate scales, with strong keels converging towards the vertebral line; a slight nuchal crest; ventral scales small, smooth. Tibia as long as the skull; third and fourth fingers equal; third and fourth toes nearly equal, fifth extending beyond first. Tail about twice as long as the distance from gular fold to vent, round in the female, very feebly compressed in the male covered with whorls of strongly keeled, spinose scales. Male with a row of anal pores. Bronzy olive or leather-brown above, the vertebral line sometimes yellowish, sometimes with darker and lighter spots; tail with dark annuli; whitish or greyish beneath, the male's throat bluish. Young with three dorsal series of whitish dark-edged ocelli.

From snout to vent 110 millim., tail 150.

This species was founded upon specimens from Mogador. Boettger records it from Tangier (whence the British Museum has also received specimens through M. Henry Vaucher) and between Mogador and Morocco, and states that it is very common on the plateau between Ain-Umest and Sidi-Moktar. In Algeria it is on record from Tlemsen, Bou-Saada, and the Mzab (*Strauch*); the Chotts of the Province of Oran (*Gervais*); and Saïda, eastern frontier of Algeria (*Guichenot*). According to M. Lataste it is only found in the stony parts of the Sahara in the Provinces of Algiers and Constantine; he obtained specimens in the Mzab, at Laghouat, at Bou-Saada, and at Cachrou, near Oran. It has not yet been found in Tunisia.

2. Uromastix, Merrem, 1820.

Incisors large, uniting in the adult into one or two cutting-teeth, separated from the lateral teeth by an interspace. Tail short, depressed, covered with whorls of large spinose scales. Præanal and femoral pores.

These curious essentially phytophagous Lizards inhabit the arid tracts of North Africa and Southern Asia. The Algero-Tunisian species is:—

1. Uromastix acanthinurus, Bell, 1825.

U. spinipes, Günther.—*U. temporalis,* Valenciennes.

Anterior border of ear denticulated. Scales small, no enlarged ones on the back or flanks. 9 to 11 femoral and 4 or 5 præanal pores on each side. Tail above with large spinose scales not separated by smaller ones; below with smaller scales, two or three whorls corresponding to one of the upper surface. Yellowish, greenish, or greyish above, dotted or vermiculated with blackish or brown.

Total length 250 millim., tail 150.

Very common in the stony Sahara, where it makes burrows in the firm soil to the depth of two or three feet. It is found in abundance at Biskra, Bou-Saada, Geryville, Mascara, Laghouat, and the Mzab; also in the Hodna district, in the south of the High Plateaux (Msila and Magra); in Tunisia M. Lataste observed it at Tamesred, Taoudjout (Matmata), Hadedj, Wed-el-Kreil, M. Valéry-Mayet at Gafsa and Kriz, and Dr. André between Cabes and the Chott Fejej.

U. acanthinurus is not recorded west of Algeria or east of Tunisia. It has sometimes been confounded with the more eastern *U. spinipes*, Daud., distinguished by much smaller scales and the presence of scattered small tubercles on the flanks, and which does not occur in Barbary.

The only figure of this Lizard is that accompanying the original description by Bell, Zool. Journ. i. 1825, pl. xvii.

Fam. 3. ANGUIDÆ.

A single representative in Morocco, *Ophisaurus koellikeri.*

Two other Lizards of this family have been ascribed to this fauna, but I have no hesitation in erasing them from the list, viz., *Anguis fragilis*, L., and *Ophisaurus* (*Pseudopus*) *apus*, Pall. They were mentioned by Gervais as having been obtained, together with *Ophiomorus punctatissimus*, Bibr., at Algiers by M. Marloy. The fact that these Lizards, which occur together in the East (Greece, Asia Minor), have never since turned up in Barbary, renders it absolutely incredible that they should have been obtained at or near so well-explored a place as Algiers; I therefore believe the locality to be altogether erroneous. It is true that the supposed Algerian specimen of *Ophiomorus* is now entered in the registers of the Paris Museum, where, thanks to Prof. Vaillant's courtesy, I have been able to examine it, as from Bona, through Dr. Guyon. But this is doubtless again an error, the specimen being surely the same as was mentioned by Gervais, and presented by him to the Museum together with the *Anguis fragilis*, as may be seen by referring to Aug. Duméril's 'Catalogue Méthodique,' pp. 189, 190, where the *Anguis* is referred to as from "Bône: *M. Marloy.*"

1. OPHISAURUS, Daudin, 1803.

A lateral fold. Scales squarish rhomboidal, forming straight longitudinal and transverse series. Limbs absent externally, or reduced to rudiments of the hind pair.

1. OPHISAURUS KOELLIKERI, Günther, 1873.

Pseudopus apus, forma ornata, Boettger, 1881.

Azygous præfrontal large, quite as broad as the frontal, with which it forms a suture; interparietal much broader than the parietals or the occipital; two shields on a line from the nasal to the azygous præfrontal; five supraoculars. Ear concealed. Dorsal shields in 14 longitudinal and 120 transverse series, the median obtusely keeled, the laterals smooth; ventrals in 10 longitudinal series, smooth. Rudiments of hind limbs. Upper and lower caudal scales keeled. Brownish above, with a darker lateral band and small dark brown spots on the middle line of the anterior part of the back, or with blackish transverse bands spotted with bluish; belly yellowish.

From snout to vent 13 centim.

The type specimen is probably from Mogador; Dr. Boettger examined two specimens from Casablanca.

Figured in Catal. of Lizards, vol. iii. pl. xv. fig. 2.

Fam. 4. VARANIDÆ.

A single genus, confined to the Old World and Australia.

1. Varanus, Merrem, 1820.

Neck much elongate. Dorsal scales roundish, juxtaposed, surrounded by rings of minute granules; ventral scales squarish, arranged in cross rows. No femoral pores.

1. **Varanus griseus**, Daudin, 1802.

V. arenarius, Gervais, Guichenot.—*V. scincus*, Strauch.

Teeth acute, compressed. Nostril an oblique slit near the eye. Scales of head small, granular, subequal. Tail round or slightly compressed. Greyish yellow, sometimes with more or less distinct brown cross-bands on the back and tail, and brown streaks along the sides of the neck.

From snout to vent 56 centim., tail 71.

Inhabits the Sahara, extending eastwards to the Caspian Sea, Afghanistan, and North-western India. Pretty common in the Algerian Sahara, and also found in the Hodna district, in the south of the High Plateaux. Specimens were brought to M. Lataste at Wargla, Laghouat, Bou-Saada, Biskra, Msila, and in Tunisia M. Lataste obtained it at Tozeur, and M. Valéry-Mayet at Majura.

Figured in the ‘Description de l'Egypte,’ Rept. pl. iii. fig. 2.

Fam. 5. AMPHISBÆNIDÆ.

Worm-like Lizards, represented in this fauna by two genera:—

Præanal pores; nostril pierced in the first labial	1. Blanus.
No præanal pores; nostril in a separate nasal	2. Trogonophis.

1. Blanus, Wagler, 1830.

Teeth anchylosed to the sides of the jaws. Nostril pierced in the first labial; a large frontal, forming a suture with the rostral. A well-marked lateral line; a curved postgular fold. No limbs. Tail pointed. Præanal pores.

1. **Blanus cinereus**, Vandelli, 1797.

Snout rounded, not at all projecting beyond the lower jaw. Four upper and four lower labials; 110–125 annuli on the body and 20–22 on the tail; 4–6 præanal pores. Brownish flesh-colour, the segments of a more or less dark brown.

Total length 250 millim.

This species occurs in Spain and Portugal and Morocco, where it has been obtained at Tangier, Tetuan, and between Mogador and Morocco. From Algeria it is recorded by Lallemant from the western part of the Province of Oran, and from Tebesa, in the Province of Constantine. Dr. Strauch purchased specimens stated to have been obtained at Batna. M. Lataste did not come across it in Algeria, and thinks some of the reports of its occurrence may be due to confusion with the uniform fuliginous variety of *Trogonophis wiegmanni.*

Figured by Gervais, Mag. Zool. 1836, pl. x.

2. TROGONOPHIS, Kaup, 1830.

Teeth anchylosed to the parapet of the jaws. Nostril pierced in a large nasal; two pairs of upper head-shields. A vertebral line and a stronger lateral line. No limbs. Tail conical. No præanal pores.

1. TROGONOPHIS WIEGMANNI, Kaup, 1830.

Amphisbæna elegans, Gervais.

Snout slightly projecting. Five upper labials, second and fifth smallest; four lower labials. 136–151 annuli on the body and 12–14 on the tail. Yellowish white, chequered with black. A variety, of which a specimen was obtained at La Chiffa by Dr. Bavay, and another at Biskra by M. Hénon, is of a uniform fuliginous grey, a little lighter below.

Total length 259 millim.

This genus is peculiar to Barbary. From Morocco *Trogonophis* is known from Tangier, Tetuan, the Zaffarine Islands, Larache, Casablanca, Coreina, Mogador, and between Mogador and Morocco. It is found in the three provinces of Algeria, and occurs as far south as Biskra. The only Tunisian locality is Tamesmida, between Ferriana and Tebesa, where specimens were collected by M. Lataste.

Figured by Gervais, Mag. Zool. 1836, pl. xi.

Fam. 6. LACERTIDÆ.

The range of this family is restricted to the Old World; the five following genera are represented in Barbary:—

A. Movable eyelids.	
a. Nostril above the first labial, from which it is separated, if at all, by a narrow rim.	
α. Digits not denticulated laterally.	
Dorsal scales small	1. LACERTA.
Dorsal scales large and imbricate	2. PSAMMODROMUS.
β. Digits denticulated laterally	3. ACANTHODACTYLUS.
b. Nostril well separated from the labials	4. EREMIAS.
B. No movable eyelids	5. OPHIOPS.

1. LACERTA, Linnæus, 1766.

Nostril bordered by two or three nasals and the first labial. Eyelids movable. Collar well marked. Dorsal scales much smaller than caudals, not or but feebly imbricate; ventral shields tetragonal, feebly imbricate. Digits with smooth or tubercular lamellæ, not denticulated laterally. Femoral pores.

Three species in Barbary:—

Rostral entering the nostril; collar-edge serrated	1. *ocellata.*
Usually a single postnasal	2. *muralis.*
Lower eyelid with a transparent disk	3. *perspicillata.*

1. LACERTA OCELLATA, Daudin, 1802. (Plate XV.)

Lower eyelid scaly. Rostral shield entering the nostril; two superposed postnasals; occipital shield large; temple covered with irregular, rather large scales. Collar with serrated edge. Dorsal scales small, roundish-rhomboidal, feebly keeled, 60 or more across the middle of the body. Ventral plates broader than long, in 6 to 10 longitudinal series. Green above, with or without blue or white ocelli, or reticulated black and yellow. Size large (grows to 3 feet).

The typical form of this, the largest species of the genus *Lacerta*, inhabits the south of France, Liguria, and the Pyrenean Peninsula, but is not found in Barbary, where it is represented by the two following races or subspecies.

Var. PATER, Lataste, 1880.

L. viridissima, Rozet.—*L. ocellata*, Schlegel, Strauch.—*L. viridis*, Gervais.

The large Algerian green Lizard was long confounded with both the typical *L. ocellata* and *L. viridis*, until M. Lataste showed that it formed a distinct race or subspecies, which, though much nearer the former, presents some points of affinity to the latter. The form has since even been raised to the rank of a species (Bedriaga), but I hold that M. Lataste was well advised in treating it as subordinate to *L. ocellata*. Examination of a good number of specimens from the Spanish Peninsula has even convinced me that the distinctive characters between the two forms are by far not so well marked as M. Lataste thought. But on the whole, taking the *ensemble* of the characters of the Algero-Tunisian form, a separation from the European *L. ocellata* is justified, and the name proposed by Lataste is well chosen, as *L. pater* may be looked upon as most nearly allied to, if not the actual survivor of, the ancestral stock from which the allied *L. ocellata* and *L. viridis* are descended. The affinity to *L. viridis* is shown in the usually more distinctly keeled dorsal scales; the smaller occipital shield, which is as broad as or a little narrower than the frontal; the ventrals in 8 longitudinal rows (8–10 in *L. ocellata*, 6–8 in *L. viridis*); and, in some specimens, the absence of ocellar spots. Not one of these characters, taken by itself, is, however, absolutely distinctive.

The following notes are taken from the specimens in the British Museum:—

The occipital is constantly broader than the interparietal, and usually narrower than the frontal; however, in a male specimen from Tunis it is quite as broad as the frontal, not larger than in a specimen of the typical form from Ferrol (Spain)[1]. The dorsal scales are small, oval-subrhomboidal, feebly keeled, and their number across the middle of the body varies from 70 to 80. The ventral shields form 8 longitudinal series, of which the two median and the outermost are the narrowest. Femoral pores vary from 14 to 16 on each side, 14 being the usual number. Two or three semicircles of small shields on the anal region.

The coloration varies greatly, green being the ground-colour. The young are usually ornamented all over with large bluish-white black-edged ocelli, like the young of the typical *L. ocellata*; others are uniform green. The adult may be uniform or speckled with black, like typical *L. viridis*; or with black rings or small black and white ocelli, thus very similar to the Iberian *L. viridis*, var. *schreiberi*; or with large blue ocelli on the sides like the typical *L. ocellata*. Lower parts uniform greenish yellow.

The largest specimen measures 165 millim. from snout to vent.

This fine Lizard is found all over Algeria, as far south as the northern border of the Sahara. M. Lataste found it very common at Algiers, Aumale, Setif, Bona, Batna, Lambesa, El Guerrah, Bougia; and he received it from the Plateau of Sersou. Dr. Strauch records it from Oran and Constantine; J. von Fischer from Boghar, Blidah, La Chiffa, Tiaret, El Kantarah, El Rouached, St. Arnaud; and Dr. Kobelt collected specimens at Tlemsen and Biskra. In Tunisia, it is known from the city of Tunis, and M. Lataste observed it in the northern parts, between Ferriana and Tebesa. Marquis Doria found it on Galita Island.

Figured on Plate XV. figs. *a–e*.

Var. TANGITANA, Boulenger, 1887.

This interesting form was recently discovered at Tangier by M. H. Vaucher, from whom I received 11 specimens. There was no previous record of either *L. ocellata* or *L. viridis* in Morocco. The var. *tangitana* comes very near the Algerian var. *pater*, but diverges from it as well as from *L. ocellata typica* in the still smaller dorsal scales, of which there are 77 to 100 across the middle of the body, and the greater number of femoral pores, viz. 17 to 21. In the usually smaller size of the occipital and the number (6 or 8) of longitudinal rows of ventral shields, it approaches nearer still the Spanish-Portuguese form of *L. viridis* (var. *schreiberi*, Bedriaga), from which some specimens are with respect to these two characters undistinguishable.

In some specimens the occipital is not or but slightly broader than the interparietal; in others its greatest width equals that of the frontal. 24 to 28 scales on a line between the chin and the collar; latter with 11 to 13 shields. There are usually eight longitudinal rows of ventrals, but sometimes only six. Two or three semicircles of small shields on the anal region. Green above, with whitish or blue black-edged ocelli, which may be confined to the sides; lower parts uniform greenish yellow.

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[1] The head of this Spanish specimen is figured on Plate XV. fig. *g*.

From snout to vent 140 millim., tail 300.

I have given a figure of this variety in the third volume of the British Museum 'Catalogue of Lizards,' pl. iii. fig. 1. The upper surface of the head is represented on Plate XV. fig. *f* of this Memoir.

2. LACERTA MURALIS, Laurenti, 1768.

L. agilis, Gervais.

Lower eyelid scaly. Rostral shield not entering the nostril; usually a single postnasal; occipital shield small; temple granular, usually with an enlarged circular shield in the middle. Collar with even or very slightly serrated edge. Dorsal scales small, granular, smooth or feebly keeled, 40 or more across the middle of the body. Ventral plates broader than long, in 6 (rarely 8) longitudinal series.

A very variable species, inhabiting Western and Southern Europe, South-western Asia, and Barbary. It is recorded from Cyrenaica by Reichenow.

In the specimens from Tangier, the scales are very small, obtusely keeled, 61 to 73 across the middle of the body, three or four transverse series corresponding to one ventral shield. Four labials anterior to the subocular (one specimen has five on one side, another only three). An enlarged shield, sometimes broken up into two or three, is present in the middle of the granulate temple in five specimens, altogether absent in a sixth. Upper caudal scales strongly keeled. Femoral pores 13 to 19, usually 17. Olive-grey above, with small black spots or reticulations; a more or less defined dark lateral band, bordered above by a whitish streak or series of white spots; hinder side of thighs with round white spots; two series of white, black-edged spots along each side of the tail; belly uniform white in both sexes, or with a few scattered black dots; throat with black dots.

The largest male measures, from snout to vent 52 millim., tail 95; the largest female, from snout to vent 50, tail 79.

In specimens from the plains of the Spanish Peninsula (Valencia, Lisbon), the dorsal scales are smooth and the caudals very feebly keeled; 55 to 60 scales across the middle of the body. Specimens from the Serra de Gerez have 54 to 63 scales across the body, and these are obtusely keeled, and the caudals have well-marked keels. In Persian specimens I count only 45 to 50 scales. In European specimens of the typical form generally, the number of scales across the middle of the body varies from 48 to 65.

In Morocco, this Lizard is as yet only known from Tangier. In Algeria it is widely distributed north of the Sahara, though far less common than on the opposite shores of the Mediterranean. M. Lataste collected specimens at Aumale, Rorfa des Beni Slimam, Constantine, Setif, Chabet-el-Acra, Beni Mansour, Tebesa, and received some from Daya and the Plateau of Sersou. Strauch obtained it from Tlemsen. It is thus recorded from the three provinces. In Tunis, M. Lataste met with *L. muralis* at Guelaat-es-Sinam, and on the route from Ferriana to Tebesa.

The larger green form, var. *tiliguerta*, Gm. (*neapolitana*, Bedriaga), so common in the south of Italy and Malta, is recorded from Tunis by Camerano (Atti Acc. Torin. xiii. 1877, p. 87).

3. Lacerta perspicillata, Dum. & Bibr. 1839.

Lower eyelid with a transparent disk. Rostral shield not entering the nostril; two superposed postnasals; occipital shield small; temple uniformly granular. Collar with even edge. Dorsal scales small, granular, 50 or more across the middle of the body. Ventral plates square, subequal, in 10 longitudinal series. Green or bronzy above, uniform or with light ocelli; uniform greenish white beneath.

This Lizard is well distinguished from all other members of the genus *Lacerta* by the presence of a transparent disk in the lower eyelid, which permits the animal to see when the eyes are closed. As far as we know at present, its habitat is restricted to the environs of Oran, where it is common on Mount Santa Cruz; it was also found in the town of Oran by M. Gazagnaire; its habits are, like those of *L. muralis*, essentially saxicole. The various statements of the occurrence of *L. perspicillata* outside the Province of Oran appear to be erroneous[1].

The following descriptive details are taken from the specimens in the British Museum:—

A series of granules between the supraoculars and the supraciliaries; occipital smaller than the interparietal, which is at least twice as long as broad; five upper labials anterior to the subocular. A distinct fold across the throat, from ear to ear; 32 to 34 scales on a line between the chin and the collar; latter with 9 or 10 shields. 54 to 56 scales across the middle of the body; three transverse series of scales correspond to one ventral shield. 29 transverse rows of ventrals in the male, 35 in the female. 18 or 19 femoral pores on each side. A single semicircle of small shields borders the anal. Upper caudal scales smooth or very feebly keeled, truncate posteriorly. The hind limb reaches the axil in the male, the elbow of the adpressed fore limb in the female.

From snout to vent 58 millim.

L. perspicillata is figured by Guichenot, Explor. Sc. Alg., Rept. pl. i. fig. 3.

2. Psammodromus, Fitzinger, 1826.

Nostril between two nasals, in contact with the first labial or separated only by a narrow rim. Eyelids movable, scaly. Collar absent or very feebly marked; a short fold in front of the arm. Back covered with large, rhombic, strongly keeled and imbricate scales. Ventrals imbricate. Digits with tubercular or keeled lamellæ inferiorly. Femoral pores.

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[1] *Cf.* Lataste, C. R. Assoc. Franç. Av. Sc., Congrès d'Oran, 1888, i. p. 191.

Three species in Barbary:—

Collar distinguishable . . . . 1. *blanci.*
No trace of a collar; ventral plates of the median and outer series narrower than the others . . . . 2. *microdactylus.*
No trace of a collar; ventral plates subequal . . . . 3. *algirus.*

The fourth and type species of this genus, *P. hispanicus*, Fitz., inhabits the Spanish Peninsula and the south of France. It has been recorded from Tangier in the 'List of Animals living in the Gardens of the Zoological Society of London,' no doubt through confusion with *P. microdactylus*; and from Oran by F. Müller (Verh. nat. Ges. Basel, vi. 1878, p. 625), through confusion with *P. blanci*.

1. Psammodromus blanci, Lataste, 1880. (Plate XIV. fig. 2.)

A more or less distinct gular fold, connecting the ears; collar distinguishable. Ventrals broader than long, the median and outer series narrower than the two others. Digits inferiorly with a double series of more or less strongly or obtusely keeled tubercles. Olive or bronzy brown above, with two yellowish streaks along each side, bordered with small black spots; the upper streak commences from the upper border of the temple, the lower commences on the upper lip and passes through the ear; sometimes a light vertebral band; lower parts uniform yellowish.

The suture between the rostral and the first labial usually falls below the anterior border of the nostril. 28 to 32 scales round the middle of the body, ventrals included. 10 to 12 femoral pores on each side.

From snout to vent 40 millim., tail 61.

This small Lizard is easily mistaken for the young of the much commoner *P. algirus*, which occurs together with it in many localities. When examined, it is, however, found to differ in the gular fold, the collar, and the arrangement and shape of the ventral plates, which much resemble the same in true Lizards, whilst those of *P. algirus* remind one to a certain extent of the Scinks.

Psammodromus blanci is as yet only known from Algeria, but is on record from the three provinces; it does not occur south of the Atlas. M. Lataste found it not uncommon in and near Algiers and near Aumale, very common at Lambesa, and between Tafrant and Meriana, and also obtained it at Youkouss, near Tebesa, and at Oran; his collection contains specimens from Batna, received from M. Henri Martin; and J. v. Fischer records it from Blidah (Prov. Algiers) and Rouached (Prov. Constantine).

2. Psammodromus microdactylus, Boettger, 1881.

No gular fold; no trace of a collar. Ventrals broader than long, the median and outer series narrower than the two others. Digits beneath with a double series of strongly but obtusely keeled tubercles. Upper caudal scales more strongly keeled than the dorsals. Olive or pea-green above, with or without brown or black spots, which may be mixed with white; a more or less distinct brown or reddish lateral band; lower surfaces white, outer row of ventrals lemon-yellow; throat of males bluish. Young with small black and white ocelli on the sides; upper lip pure white; a pure white, black-edged streak from the eye to above the tympanum, and a second from the angle of the mouth through the lower half of the tympanum to the axil.

The suture between the rostral and the first labial falls below the centre of the nostril. 28 to 30 scales round the middle of the body, ventrals included. 10 to 13 femoral pores on each side, the usual number being 12.

From snout to vent 119 millim., tail 73.

This elegant little Lizard has hitherto been found only in Morocco. Dr. Boettger received it from Tangier and Tetuan. In addition to the types in the Senckenberg Museum, I have examined 23 specimens, obtained by M. Vaucher at Tangier, and by Lieut. Quedenfeldt at Mogador.

For a detailed description and figure, *cf.* Boettger, Abh. Senck. Ges. xiii. 1883, p. 111, pl. i. fig. 2.

3. PSAMMODROMUS ALGIRUS, Linnæus, 1766.

Algira barbarica, Gervais.

No gular fold; no trace of a collar. Ventrals subequal, little broader than long, roundish hexagonal, strongly imbricate. Subdigital lamellæ smooth, tubercular, or feebly bicarinate. Upper caudal scales like the dorsals. Bronzy above, with one or two golden, dark-edged lateral streaks; male with a pale blue ocellus above the shoulder, sometimes followed by one or two more; lower surfaces whitish.

From snout to vent 76 millim., tail 190.

This species, which occurs also in the Spanish Peninsula and the south of France, is common and generally distributed in Morocco, Algeria, and Tunisia north of the Sahara. A variety (var. *nollii*) from the Sahara (Tuggurt and Southern Tunisia) has recently been described by J. v. Fischer (Zool. Gart. 1887, p. 69); this variety, which is distinguished by having two additional yellowish stripes along the back, is represented in M. Lataste's collection by a specimen from Founasse, in the south of the Province of Oran, received from M. Maury in 1888. A melanotic form, blackish above, with bluish dots, bluish grey beneath, obtained by Marquis Doria on Galitone Island, near Galita, has been described by Bedriaga as var. *doriæ* (Beitr. Kenntn. Lacert. 1886, . 409).

A good figure of this pretty Lizard is given by Bonaparte in his 'Fauna Italica.'

3. ACANTHODACTYLUS, Wiegmann, 1834.

Nostril pierced between two nasals and the first labial. No occipital shield. Eyelids movable. Collar more or less distinct. Dorsal scales juxtaposed or imbricate; ventrals tetragonal, feebly imbricate. Digits keeled inferiorly and more or less strongly fringed laterally. Femoral pores.

Four species in Barbary:—

Posterior dorsal scales very much larger than the anterior, strongly imbricate, sharply keeled, passing gradually into the caudals	1. *boskianus.*
Ventrals in 14 to 18 longitudinal series, not or but slightly broader than long; digital denticulations at least as long as the diameter of the corresponding part of the toe	2. *scutellatus.*
Ventrals in 12 or 14 longitudinal series, the median broader than long	3. *pardalis.*
Ventrals in 8 or 10 longitudinal series	4. *vulgaris.*

For fuller details upon the Lizards of this genus, *cf.* Lataste "Les Acanthodactyles de Barbarie et les autres espèces du genre," Ann. Mus. Genova, (2) ii. 1885, pp. 476–516. The only important point in which I differ from M. Lataste with regard to the four species of Barbary is his identification of *Lacerta savignyi*, Audouin (1829), with the species which, from an examination of the types of *Lacerta pardalis*, Lichtenstein (1823), I call *A. pardalis.* I identify the figure of the Egyptian *L. savignyi* with the Lizard from Somaliland described by Lataste as *A. vaillanti.*

These Lizards are only found in sandy localities; they range over the Sahara and the bordering countries as far south as Senegambia and Somaliland, one species extending to the Spanish Peninsula and the south of France. Eastwards they extend through Arabia, Syria, Persia, and Baluchistan to Sind and the Punjab.

1. ACANTHODACTYLUS BOSKIANUS, Daudin, 1802.

Snout obtuse. Four supraoculars, the fourth very seldom broken up into small scales; front edge of the ear usually distinctly denticulated. Dorsal scales strongly keeled, very much larger on the hinder part of the back than between the shoulders and on the flanks, rhomboidal, strongly imbricate. Ventral plates considerably broader than long, in straight longitudinal and transverse series, 10 (rarely 12) across the middle of the body. Digital denticulations strong, usually shorter than the corresponding diameter of the toe, much more developed on the outer than on the inner edge of the fourth toe. Young with whitish longitudinal lines separated by blackish interspaces with series of round whitish spots; these markings become more indistinct or disappear with age, the adult being greyish, brownish, or buff, with or without small blackish spots; lower parts white; tail of young pink.

The Algerian specimens belong to the var. *asper*, Audouin, distinguished from the typical form (hitherto found only in Egypt) by its larger dorsal scales. These scales form 34 to 42 longitudinal series (exclusive of the ventrals) round the middle of the body, and there are 10 to 14 longitudinal rows of large keeled scales between the hind limbs. The subocular does not reach the lip, but is wedged in between the fourth and fifth or fifth and sixth labials. 19 to 24 femoral pores on each side. A median series of broad præanal plates, posterior largest.

The largest specimen examined by me measures 80 millim. from snout to vent; tail not quite twice as long.

A. boskianus occurs from Southern Algeria and Tunis through Tripoli and Egypt to Syria and Arabia; it is also found in Abyssinia. It is common in the Algerian and Tunisian Sahara, and rare on the Algerian Plateaux. M. Lataste found it on the plateau at Bordj Medjez, Msila, and Ngaous; in the Algerian Sahara at Bordj Tayer Rason, Ghardaia, Berrian, Tilremt, Laghouat, Bou-Saada, and on the route from Bou-Saada to Biskra, and received specimens obtained by M. Maury at Kreder, Prov. of Oran, near the Sahara and the Morocean frontier; in Tunisia at Cabes, Zarzis, Djerba Island, Limagues, and Ferriana.

Figured, 'Description de l'Egypte,' Rept., Suppl. pl. i. fig. 9.

2. Acanthodactylus scutellatus, Audouin, 1829.

Snout acute. Four supraoculars, fourth sometimes broken up; front edge of the ear usually strongly denticulated. Dorsal scales small, rhomboidal, keeled, slightly enlarged towards the posterior part of the body. Ventral plates as long as broad, or a little longer than broad, rarely a little broader than long, in irregular longitudinal and angular transverse series; 14 to 18 plates in a transverse series in the middle of the body. Digital denticulations strong, at least as long as the diameter of the corresponding part of the toe, much more developed on the outer than on the inner edge of the fourth toe. Greyish or pale buff above, dotted or reticulated with darker; white beneath.

This is a very variable species. The Saharian examples are smaller, more slender and lighter-coloured than the typical form from Egypt, and the name var. *exiguus* (=*Scaptira inornata*, Gray) has been bestowed upon them by Lataste.

The following notes are taken from Algerian and Tunisian examples:—

Dorsal scales very distinctly keeled, juxtaposed, usually passing very gradually into the marginal ventral shields, the exact number of longitudinal rows of which is, therefore, often difficult to ascertain; there are at least 14 well-defined ventrals in a transverse series across the middle of the body, and the number may rise to 18. 61 to 74 scales (ventrals included) round the middle of the body. Præanal shields often all small and subequal. Subocular never reaching the lip, from which it is usually separated by one or two additional labials intercalated between the (normally) fourth and fifth. Femoral pores 18 to 25.

From snout to vent 50 millim., tail 90.

The range of *A. scutellatus* extends from Senegambia through the Sahara to Egypt, Somaliland, the Sinaitic Peninsula, and Syria. It is only found in the sandy parts of the Sahara, just penetrating to some points of the Plateaux. M. Lataste obtained it in Algeria, at Biskra, Mraier, Tuggurt, Bled Ahmar, Hadjira, N'gousa, Tilremt, Laghouat, Aïn-el-Hel, and Bou-Saada, and received from M. Maury specimens at Aïn Sefra, in the south of the Province of Oran; in Tunisia, at Wed-el-Kreil, Kebili, Tozeur, and Nefta. It is not on record from Morocco, although it surely exists in the Saharian parts; we have specimens obtained not far from the southern limit of Morocco, viz. from Cape Jubi, near Cape Nun.

Figured, 'Description de l'Egypte,' Rept., Suppl. pl. i. figs. 7 & 11.

3. Acanthodactylus pardalis, Lichtenstein, 1823.

A. savignyi, Gervais, Guichenot, Strauch, Lataste.—*Zootoca deserti*, Günther.—*A. bedriagæ*, Lataste.

Snout obtuse, or, at any rate, less acute than in *A. scutellatus*. Three supraoculars, the anterior frequently divided into two or three; front edge of ear more or less distinctly denticulated. Dorsal scales very small, granular, or subrhomboidal, smooth or more or less feebly keeled. Ventral plates broader than long, sometimes very slightly, in 12 or 14 regular longitudinal series. Digital denticulations feebly or moderately developed, much shorter than the diameter of the corresponding part of the toe, slightly more developed on the outer than on the inner side. Young longitudinally streaked black and white on the body, with round white spots on the limbs; coloration of adult very variable, usually with longitudinal series of blackish and yellowish or brick-red spots, sometimes with yellowish longitudinal bands; the desert specimens pale greyish or reddish.

A. pardalis is a transitional form between *A. scutellatus* and *A. vulgaris*. It is represented in Algeria and Tunis by two ill-defined varieties, which have been named by Lataste var. *bedriagæ*, the larger, stouter form, approaching *A. vulgaris* in structure as well as coloration, and var. *deserti* (=*Scaptira maculata*, Gray, *Zootoca deserti*, Günther), the smaller form from the Sahara, which often closely approaches *A. scutellatus*.

The subocular rarely reaches the lip; its lower border is usually wedged in between the fourth and fifth or fifth and sixth labials. In Algerian and Tunisian specimens I count 66 to 82 scales round the middle of the body, ventrals included. Femoral pores 15 to 25.

From snout to vent 70 millim., tail 100.

This species occurs from Algeria to Egypt, Somaliland, and Syria. It is the most common and generally distributed species in Algeria and Tunisia; it is common in the Sahara, the Plateaux, and also occurs in the southern parts of the Tell. M. Lataste obtained it in numerous localities both in Algeria and Tunisia, and received it from Kreder, on the Moroccan frontier, from M. Maury in 1888.

Figured, Proc. Zool. Soc. 1881, pl. lxiii. fig. 1.

4. Acanthodactylus vulgaris, Dum. & Bibr. 1839.

A. lineomaculatus, D. & B.

Snout obtuse. Two supraoculars, the first and fourth being broken up into small scales or granules; front edge of the ear not or but feebly denticulated. Dorsal scales smooth, or more or less distinctly keeled, small, rhomboidal, feebly imbricate on the back. Ventral plates much broader than long (the largest nearly or quite twice as broad as long), in straight longitudinal and transverse series; 8 or 10 plates across the middle of the body. Digital denticulations very feebly developed, about equally on both sides. Young longitudinally streaked black and white on the body, with round white spots on the limbs; tail pink; adult greyish or brownish, with more or less distinct traces of light and dark longitudinal lines and longitudinal series of black and pale spots; sometimes with large blue ocelli on the sides.

This species might be divided into two forms—the typical form from Europe and Algeria, with smooth or faintly keeled scales, and the var. *lineomaculatus*, D. & B., from Morocco and Algeria, with strongly keeled scales,—were it not that there exists so complete a transition between the two that it is almost impossible to draw the line. It is a fact, however, that all specimens from Morocco, of which very many have been examined, have strongly keeled scales, and, with rare exceptions, the subocular does not reach the lip, but forms an angle inferiorly, wedged in between the fourth and fifth, rarely fifth and sixth, labials. In Algerian specimens the dorsal scales may be perfectly smooth, or more or less distinctly keeled, and it is but exceptionally that the subocular does not border the lip. Out of 14 Spanish and Portuguese specimens preserved in the British Museum, the subocular borders the lip in two specimens on both sides, and in a third on one side only, the 11 other specimens being in this respect like those from Morocco.

The number of scales round the body (ventrals included) varies from 70 to 85, and that of femoral pores on each side from 22 to 27.

The largest Algerian specimen measures from snout to vent 70 millim., tail 110.

A. vulgaris inhabits the south of France (where very few specimens have been found), the Spanish Peninsula, Morocco, Algeria north of the Sahara, and, probably, Northern Tunisia. It is very common at Tangier, and is on record from Casablanca, Mogador, Morocco, and the Plateau of Chiodma. In Algeria it is found on the coast and rarely on the Plateaux. M. Lataste obtained specimens from Oran, Daya, Plateau of Sersou, Algiers, Wed Sedeur (between Laghouat and Djelfa), Setif, between Aumale and Beni Mansour, Bordj-Bou-Arrerij, and Tebesa.

4. EREMIAS, Wiegmann, 1834.

Nostril pierced between three (or four) nasals. Eyelids movable. Collar more or less distinct. Dorsal scales small; ventral shields tetragonal, feebly imbricate. Digits with keeled lamellæ inferiorly, not denticulated laterally. Femoral pores.

A single species in Barbary.

1. EREMIAS GUTTULATA, Lichtenstein, 1823.

E. pardalis, Gervais, Guichenot, Strauch.—*Podarces simoni,* Boettger.

Snout rather pointed; nasals more or less swollen. Lower eyelid with a more or less transparent disk formed of one, two, or several scales. A small occipital, in contact with the interparietal; no auricular denticulation. Collar curved or more or less angular, free or attached in the middle. Dorsal scales granular, smooth. Ventral plates in straight longitudinal and transverse series, broader than long; 10 longitudinal series, the outer composed of very small plates. Coloration very variable, usually pale greyish or brownish above, with blackish dots or series of black spots and white ocelli, or with a broad dark grey vertebral band, &c.; young with dark and light streaks along the sides; lower parts white.

This is a very variable species, especially with respect to the scaling of the lower eyelid and the development of the collar. Specimens with imperfectly transparent eyelid, in which the median disk is broken up into numerous scales, and with the collar distinct only on the sides, have been named *E. simoni* by Boettger, who has kindly enabled me to examine the type specimens preserved in the Senckenberg Museum, two of which are now in the British Museum. Specimens with similar eyelids, but with the collar free right across the throat, were named *E. guttulata* by Duméril and Bibron, and such as have the eyelid perfectly transparent and formed of two scales, and the collar free only at the sides, represent *E. pardalis* of the same authors. The large number of specimens examined by M. Lataste convinced him, however, that no such division can be carried out, and I arrived at the same conclusion when working out the extensive series in the British Museum. The following table shows the variations in the Algerian and Tunisian specimens in the Museum:—

	♂, Aumale.	♀, Tilremt.	♂, Susa.	♀, Cabes
Collar	Distinct, attached in the middle.	Distinct only at the sides.	Distinct, attached in the middle.	Free all round.
Number of scales in transparent palpebral disk	3	2	6	4
Number of scales round middle of body (ventrals included)	68	52	59	52
Femoral pores	17–17	10–10	14–13	11–10

The largest Barbary specimen examined by me measures 45 millim. from snout to vent, tail 72.

The range of *E. guttulata* is a very wide one, extending in Africa from Morocco to Egypt, and in Asia from Arabia and Syria to Sind. In Morocco, the species is recorded by Boettger from Casablanca and between Mogador and Morocco. In Algeria, it is recorded by Strauch from Oran, Algiers, and Laghouat, and by F. Müller (Verh. nat. Ges. Basel, vi. 1878, p. 625) from the Plateau of Sersou; M. Lataste obtained it at Biskra, Mraier, Tuggurt, Gardaia, Berrian, Bou-Guelfaia, Tilremt, Laghouat, near Aumale, between Aumale and Beni-Mansour, and at Bordj-Bou-Arrerij. In Tunisia, the species is known from Susa (Brit. Mus.), Cabes, and the Chotts (André), and was collected by M. Lataste at Cabes, Hadedj, Tamesred and Matmata, Mettamer, Plateau of Haonaia and Djebel Domeur, Zarzis, Kebili, and Djerba Island.

Figured, 'Description de l'Eypte,' Rept., Suppl. pl. iii. figs. 1, 2.

5. OPHIOPS, Ménétries, 1832.

Nostril between two to four nasals. Eyelids immovable, the lower united with the upper, with a very large transparent disk. Collar absent or very indistinct. Dorsal scales imbricate and strongly keeled. Digits with sharply keeled lamellæ inferiorly, not denticulated laterally. Femoral pores.

A single species in Barbary.

1. OPHIOPS OCCIDENTALIS, Boulenger, 1887.

Ophiops elegans, Lataste, Boettger.

Head-shields smooth. Nostril between an upper and a lower nasal, followed by one or two postnasals; four supraoculars, first and fourth small, all in contact with the supraciliaries; occipital very small or absent. Dorsal scales very large and sharply keeled, larger than the laterals, and but little if at all smaller than the caudals; 26 to 30 scales round the middle of the body, ventrals included. 6 to 11 (usually 7 or 8) femoral pores on each side. Olive or bronzy above, with black spots, and one or two light longitudinal streaks on each side; lower parts white.

The North-African *Ophiops* is closely allied to, but perfectly distinct from the South-Eastern Asiatic *O. elegans*, with which it was at first confounded. The absence of granules between the supraoculars and the supraciliaries at once distinguishes it. The scales are also larger, 26 to 30 round the body instead of 30 to 40.

The largest specimen measures 44 millim. from snout to vent, tail 98.

I have given a figure of this species in the third volume of the British Museum 'Catalogue of Lizards,' pl. iii. fig. 2.

The occurrence of *Ophiops* in North Africa was first recorded by Lataste, in 1880; but two specimens from Susa, Tunisia, collected by Mr. Fraser, had been for many years in the British Museum. In 1880, also, Peters recorded it from Tripoli (Mon. Berl. Ac. 1880, p. 308). And in 1885, Boettger (in Kobelt, Reis. Alg. u. Tunis, p. 467) described a specimen obtained by Dr. Kobelt at Biskra. M. Lataste obtained it in Algeria, at Batna, Wed Sedeur, Yukuss (near Tebesa), and Portes de Fer, and examined specimens collected by the Roudaire expedition at the Eastern Chotts; in Tunisia, at Hadedj des Matmata, and between the latter locality and Cabes, Medina, and at Ferriana and Tamesmida.

Fam. 7. SCINCIDÆ.

This large and cosmopolitan family is represented in Barbary by four genera, distinguishable as follows:—

A. Palatine bones in contact on the median line of the palate; nostril in a single nasal . . . . 1. Mabuia.
B. Palatine bones separated on the median line.
  a. Rostral not entering the nostril.
Nostril pierced in the nasal; digits not denticulated laterally . . . . 2. Eumeces.
Nostril between an upper and a lower nasal; digits denticulated laterally . . . 3. Scincus.
  b. Nostril pierced between the rostral and a very small nasal, in an emargination of the former shield . . . . 4. Chalcides.

The genus *Ophiomorus*, Bibron, is erased from this fauna for reasons stated above, p. 120.

1. Mabuia, Fitzinger, 1826.

Palatine bones in contact mesially. Eyelids movable. Nostril pierced in a single nasal; supranasals present; præfrontals and frontoparietals present. Limbs well developed, pentadactyle; digits subcylindrical or compressed.

A single species in Barbary.

1. Mabuia vittata, Olivier, 1804.

Lower eyelid with an undivided transparent disk. Normally no postnasal; parietals usually in contact behind the interparietal. Ear-opening oval, about as large as a lateral scale, with two or three pointed lobules, one of which usually is long. Nuchal and dorsal scales strongly tricarinate; 32 or 34 scales round the middle of the body, dorsals a little larger than laterals or ventrals. The adpressed limbs meet or slightly overlap, or fail to meet. Olive or brown above, with a more or less distinct lighter vertebral stripe; and two narrow whitish lines on each side, the lower commencing below the eye and passing through the ear; these light streaks may be edged with black lines or bands; lower parts yellowish or greenish white.

From snout to vent 75 millim., tail 105.

Strauch records this Scink from the Mzab, and Lallemant adds the Souf. M. Lataste received specimens from the plateaux of the Province of Constantine and collected two specimens at Biskra. He also found it in Tunisia, at the Oasis of Tozeur, and in abundance at Cabes. The range of *M. vittata* extends eastwards to Egypt and Syria.

Figures: Olivier, Voy. Emp. Othom. pl. xxix. fig. 1; Savigny, Descr. Egypte, Rept., Suppl. pl. ii. figs. 5 & 6.

2. EUMECES, Wiegmann, 1834.

Palatine bones not meeting on the median line of the palate; pterygoids toothed. Eyelids movable, scaly. Nostril pierced in the nasal (which may be divided); supranasals present; præfrontals and frontoparietals present. Limbs well developed, pentadactyle; digits subcylindrical or compressed, not serrated laterally.

Two species in Barbary.

1. EUMECES SCHNEIDERI, Daudin, 1802.

Nasal in contact with the two anterior upper labials; parietals entirely separated by the interparietal. Ear-opening rather large, with four or five long pointed lobules anteriorly. 22 to 28 scales round the middle of the body, perfectly smooth, those of the two median series very broad. The adpressed limbs just meet or fail to meet. Olive-grey or brownish above, uniform or with irregular golden-yellow spots or longitudinal streaks; a yellowish lateral streak, extending from below the eye to the hind limb; lower parts yellowish white.

From snout to vent 160 millim., tail 205.

This large and fine Scincoid inhabits Egypt, Syria, Armenia, Persia, and Baluchistan, and extends westwards to Southern Tunis, where specimens were found by Dr. André at Cherb Berrania, and by M. Lataste at Matmata, Wed Kebiriti (north of Chott Fejej), and Gafsa. The specimen from the south-eastern frontier of Algeria, mentioned by A. Duméril, probably belongs to this species.

Figured in Geoffroy, Descr. Egypte, Rept. pl. iii. fig. 3, and pl. iv. fig. 4.

2. EUMECES ALGERIENSIS, Peters, 1864. (Plate XVI.)

Scincus (*Plestiodon*) *cyprius*, Gervais, Strauch.—? *Plestiodon aldrovandii*, Guichenot.—*Eumeces pavimentatus*, Boettger.

This occidental form is distinguished from the preceding by a somewhat heavier build, the nasal in contact with the first labial only or with a very small portion of the second, shorter ear-lobules, and 30 to 32 scales round the body, the dorsals distinctly striated. Brown above, with small, yellowish, black-edged ocelli and large orange-red spots, which often form irregular transverse bands on the body.

From snout to vent 200 millim., tail 220.

Common in Morocco, at Casablanca and Mogador. In Algeria it appears to occur only in the Province of Oran, where it is recorded by Strauch from St. Cloud, Le Sig, and Arzew. Specimens from Fleurus, near Oran, were examined in the Oran Museum by M. Lataste.

3. SCINCUS, Laurenti, 1768.

Palatine bones not meeting on the median line of the palate; pterygoids toothed. Eyelids movable, scaly. Nostril pierced between two nasals; supranasals present;

præfrontals and frontoparietals present. Limbs well developed, pentadactyle; digits flattened, serrated laterally.

Two species in Barbary.

1. Scincus fasciatus, Peters, 1864.

Head oval, pyramidal, with broad, obtusely truncated snout; nostril lateral; loreal region rounded; eye large; ear-opening large, almost entirely covered by two very large scales. Rostral moderately large, separated from the frontonasal by the supranasals; six supraoculars; parietals as long as interparietal. Body cyclotetragonal, the sides of the belly rounded. 24 or 26 scales round the middle of the body; dorsal scales striated, the two vertebral series largest, at least twice as large as the ventrals; a double series of large transverse nuchals. Digits feebly depressed, feebly denticulated laterally. Yellowish or orange above, with seven transverse black bands, of which the first is on the nape, the second and third on the back, and the fourth on the sacrum.

From snout to vent 147 millim., tail 77.

The type specimen, from Geryville, which I have seen in the Berlin Museum, is described in detail by Peters. The following notes were taken by M. Lataste from his Tunisian specimen:—

Three præfrontals, middle one trapezoid and in contact with the truncate posterior border of the frontonasal; five pairs of nuchals; two superposed anterior loreals, the lower deeper but shorter than the upper; parietals considerably shorter than the frontal; nine upper labials on each side, eighth largest, fifth and sixth under the eye; second and third postmentals divided into two; the two auricular scales much larger than the temporal scales immediately preceding them. 26 rows of scales.

	millim.
From snout to vent	146
From snout to ear	32
Width of head	26

This is a very rare Lizard; only four specimens are actually known. The type specimen noticed by Strauch under *Scincus officinalis* is from Geryville, in the Sahara of the Province of Oran; one specimen was picked up, in a mummified condition, in the plain of Arad, south of Cabes, near Sidi-Guenao, by M. Lataste, and is now preserved in the Paris Museum; a third specimen, from Khartoum, is in the St. Petersburg Museum, as well as the fourth, which is without locality, and served as the type of Strauch's *Cyclodus brandti* in 1866.

2. Scincus officinalis, Laurenti, 1768.

Snout cuneiform, truncate, strongly projecting; nostril pierced in the canthus rostralis; loreal region concave; eye very small; ear-opening distinguishable, covered by two fringed scales. Rostral very large, forming a suture with the frontonasal or in contact with the anterior angle of the latter shield; six supraoculars; parietals shorter than the interparietal, followed by three to five pairs of nuchals; seven to nine upper labials. 26 to 28 (very rarely 30) scales round the middle of the body, all perfectly smooth; dorsals usually not or scarcely larger than ventrals. Sides of belly angular. Digits much depressed and strongly serrated laterally. Yellowish or brownish above, each scale with small brown and whitish spots or shafts; frequently with more or less marked dark transverse bands across the body; lower parts uniform whitish.

From snout to vent 120 millim., tail 85.

This species inhabits the Sahara and the borders of the Red Sea. It is not recorded from Morocco, but was found by M. Maury at Aïn-Sefra, in the south of the Province of Oran, close to the Moroccan frontier. M. Lataste found it common in the Algerian and Tunisian Sahara; its occurrence further north, at Djelfa, for instance, whence it is recorded by Strauch on the authority of Loche, is doubtful. It is only found in the sand, in which it burrows with great rapidity. It is eaten by the Arabs.

Very good figure in 'Description de l'Egypte,' Rept., Suppl. pl. ii. fig. 8.

4. Chalcides, Laurenti, 1768.

Palatine bones not meeting on the median line of the palate, which is toothless. Eyelids movable, lower with an undivided transparent disk. Nostril pierced between the rostral and a very small nasal, in an emargination of the former shield; supranasals present; præfrontals and frontoparietals absent. Limbs short or rudimentary.

Six species in Barbary, distinguishable as follows:—

A. Snout conical.
  a. Ear-opening much larger than the nostril.
Limbs pentadactyle . . . . 1. *ocellatus*.
Limbs tridactyle; second and third toes equal . . . . 2. *lineatus*.
Limbs tridactyle; second toe longer than third . . . . 3. *tridactylus*.
  b. Ear-opening not or scarcely larger than the nostril.
Limbs tetradactyle (rarely pentadactyle) . . . . 4. *mionecton*.
Fore limb didactyle, hind limb tridactyle . . . . 5. *mauritanicus*.
B. Snout wedge-shaped; sides of belly angular; limbs penta- or tetradactyle . 6. *sepoides*.

1. Chalcides ocellatus, Forskål, 1775.

Snout obtuse, scarcely projecting beyond the labial margin; ear-opening much larger than the nostril. Nostril pierced just above the suture between the rostral and the first labial; supranasals distinct; frontal longer than broad; usually the fifth labial entering the orbit. Body cylindrical or rather depressed. 24 to 40 scales round the middle of the body. Limbs short but well developed and pentadactyle; length of the hind limb thrice and one third to four and a half times in the length from snout to vent. The coloration of the upper parts varies considerably; lower parts uniform whitish.

Four forms occur in Barbary:—

A. Forma typica.

28 or 30 scales round the body. Olive or brown above, ocellated with black spots, sometimes confluent into irregular transverse bands, bearing central white dots or longitudinal shafts. Measures up to 140 millim. from snout to vent.

Figured by Savigny in the Descr. Egypte, Suppl. pl. ii. fig. 7.

Ranges from the Algerian Sahara to Egypt, Syria, Cyprus, Arabia, Persia, and Sind. It is only found south of the Atlas; M. Lataste's specimens are from Tuggurt, Ghardaia, and Cabes.

B. Var. tiligugu, Gmelin, 1788.

28 to 34 scales round the body (usually 30 or 32). Above olive or brown, with black and white ocelli, and a more or less distinct lighter lateral band sometimes edged with black inferiorly. Stouter and larger than the preceding, reaching a length of 170 millim. from snout to vent.

An excellent figure is given in Bonaparte's 'Fauna Italica.'

Inhabits Sardinia, Sicily, and South Italy, Algeria and Tunis, and the intermediate islands; also Tripoli, Egypt, North-Western Arabia, and Abyssinia. It is common and generally distributed in Algeria and Tunis north of the Sahara.

C. Var. vittatus, Boulenger, 1890. (Plate XVII. fig. 1.)

30 to 34 scales round the body (usually 32). Bronzy brown above, without ocelli; a light upper and a black lower lateral band. From snout to vent 115 millim.

All the specimens from Tangier belong to this variety.

D. Var. polylepis, Boulenger, 1890. (Plate XVII. fig. 2.)

34 to 40 scales round the body (usually 36 or 38). Dark brown above, usually each scale with a small round yellowish spot; sides of neck with vertical black and white bars, which disappear in the adult. From snout to vent 150 millim.

First noticed by Boettger from Casablanca, Mogador, and the city of Morocco.

2. Chalcides lineatus, Leuckart, 1828. (Plate XVII. fig. 3.)

Snout obtuse, scarcely projecting; ear-opening much larger than the nostril. Nostril pierced entirely in advance of the suture between the rostral and the first labial; supranasals distinct; frontal longer than broad; fourth labial entering the orbit. Body cylindrical, much elongate; 22 to 26 scales round the middle of the body. Limbs very small, tridactyle; the second toe as long as the third; the length of the hind limb equals at least the distance between the ear and the fore limb, and is contained 12 to

15 times in the distance from snout to vent. Bronzy olive above, uniform or with nine or eleven dark brown longitudinal streaks, as broad as or broader than the interspaces between them, which occupy the middle of each scale.

From snout to vent 126 millim., tail 134.

C. lineatus inhabits the south of France, Liguria, the Iberian Peninsula, Morocco (whence I have received three specimens from M. H. Vaucher), and Algeria. Whether the specimen of "*Seps chalcides*" from Casablanca, recorded by Dr. Boettger, belongs to this or the following species, is unknown; but Dr. Boettger kindly informs me that a second specimen from Casablanca recently examined by him belongs to *C. lineatus.* The only Algerian specimen I have seen is one obtained by M. Lataste at El Guerra, and now in the collection of Dr. J. de Bedriaga. It is uniform olive above, and has 26 scales round the middle of the body; its length from snout to vent is 140 millim., tail 92, fore limb 10, hind limb 12.

3. CHALCIDES TRIDACTYLUS, Laurenti, 1768.

Seps chalcides, Guichenot, Strauch.

Very closely allied to the preceding. Limbs weaker still, the hind one usually shorter than the distance between the ear and the fore limb, and contained 15 to 24 times in the length from snout to vent; third toe shorter than second. Olive or bronzy above, uniform or with darker and lighter longitudinal streaks, which are constantly in even number.

From snout to vent 183 millim., tail 200.

Inhabits Italy, Sardinia, Sicily, Tunis, and Algeria. Gasco records it from Egypt (Alexandria). M. Lataste found it in Algeria at Oran, Bona, Aumale, between Azesga and Tifrit, and between Bou-Saada and Biskra, and received it from Maison-Carrée and the Plateau of Sersou. Strauch mentions it from the Mzab. M. Lataste states in his notes that specimens of this species were obtained near Tunis by M. M. Sédillot in 1883.

Well figured in Bonaparte's 'Fauna Italica.'

4. CHALCIDES MIONECTON, Boettger, 1873.

Snout rather conical than wedged-shaped, but with distinctly projecting labial edge; ear-opening not or scarcely larger than the nostril, on a line with the mouth. Nostril pierced entirely in advance of the suture between the rostral and the first labial; supranasals distinct or united; frontal longer than broad; fifth labial entering the orbit. Body much elongate; sides of body not distinctly angular, although somewhat more so than in the preceding species; 24, rarely 26, scales round the middle of the body. Limbs short, tetradactyle, rarely with a rudimentary fifth digit: the length of the hind limb equals or a little exceeds the distance between the anterior border of the orbit and the fore limb; the length of the latter equals about three-fourths its distance from the ear-opening. Brown above, usually with small yellowish black-edged ocelli; a broad yellowish stripe on each side of the back; a blackish streak from nostril to eye; lips spotted with blackish; lower surfaces white.

From snout to vent 80 millim., tail 62.

This Moroccan species is intermediate between *C. ocellatus* and *C. sepoides*. Boettger's specimens are from Tangier, Casablanca, and between Mogador and Morocco. I have examined numerous specimens from Tangier, Larache, Casablanca, and Morocco.

Figured by Boettger, Abh. Senck. Ges. ix. 1873, pl. —. fig. 6.

5. CHALCIDES MAURITANICUS, Dum. & Bibr. 1839.

Allied to the preceding. Snout conical, slightly projecting; ear-opening minute, scarcely distinguishable; nostril entirely in advance of the suture between the rostral and the first labial; fourth upper labial entering the orbit; supranasals distinct. Body much elongate. 18 scales round the body. Limbs very short; the anterior didactyle, the posterior tridactyle; third toe nearly twice as long as second; the hind limb equals the length of the head, and the fore limb the distance between the end of the snout and the posterior border of the eye. Yellowish or greyish above, with a lateral band formed of closely-set large black dots.

From snout to vent 71 millim., tail 43.

I have examined the two type specimens, from Oran, preserved in the Paris Museum. A third specimen, from Nemours, Province of Oran, obtained by M. Gazagnaire in 1888, is in M. Lataste's collection.

Figured by Guichenot, Explor. Sc. Alg., Rept. pl. ii. fig. 1.

6. CHALCIDES SEPOIDES, Audouin, 1829.

Sphenops capistratus, Gervais, Strauch.

Snout wedge-shaped, with projecting labial edge; eye very small; ear-opening appearing as an oblique slit at the commissure of the mouth, covered with a fringe of three or four pointed scales. Nostril pierced entirely in advance of the suture between the rostral and the first labial; supranasals fused to a single shield; frontal as broad as or a little broader than long; fourth labial entering the orbit. Body much elongate; sides of belly angular; 24 scales round the middle of the body. Limbs weak, penta- or tetradactyle, the hind pair more developed than the front pair; the length of the fore limb equals half its distance from the centre of the eye, that of the hind limb about the distance between the nostril and the fore limb. Yellowish above, with more or less distinct light brown longitudinal streaks; a dark brown streak on each side of the head, beginning from the nostril and passing through the eye; lower surfaces white.

From snout to vent 95 millim., tail 75.

C. sepoides occurs from Senegambia and Algeria to Egypt, Arabia, and Syria. Like the true Scink, it is essentially a sand Lizard, adapted for burrowing. It is scarce in Algeria and Tunisia. Gervais records it from the Souf and Strauch from the Mzab. M. Lataste received from Major Oudri a specimen from Mraia, and found a single one himself at Tuggurt. He obtained another specimen in Tunisia, at Mettamer, and records it from Tozeur (collected by Dr. André).

Figured in the 'Description de l'Egypte,' Rept., Suppl. pl. ii. figs. 9 & 10.

Suborder II. *RHIPTOGLOSSA.*

Fam. 1. CHAMÆLEONTIDÆ.

1. Chamæleon, Laurenti, 1768.

Eye large, covered by a thick granular lid pierced with a small opening for the pupil. No ear-opening. Body compressed. Digits arranged in bundles of two and three; claws simple; scales on soles smooth. Tail prehensile, at least as long as head and body. A large genus, inhabiting Africa, Madagascar, the south of Spain, Asia Minor, Syria, Arabia, and India and Ceylon.

1. Chamæleon vulgaris, Daudin, 1802.

C. africanus, Schlegel.—*C. cinereus,* Strauch.

Casque raised posteriorly, with strong curved parietal crest; the distance between the commissure of the mouth and the extremity of the casque nearly equals the length of the mouth; a strong lateral crest, becoming indistinct as it ascends towards the extremity of the parietal crest; a small but very distinct occipital dermal lobe on each side, extending to the extremity of the parietal crest. Body uniformly granulate; no dorsal crest; a more or less distinct series of conical scales on the anterior part of the vertebral keel; a series of conical, slightly enlarged granules on the median line of the throat; no ventral crest. No tarsal process. Tail usually a little shorter than head and body. A white line from chin to vent; usually two or three series of pale spots along each side.

Total length 274 millim., tail 135.

The Chameleon inhabits North Africa, the South of Spain, Asia Minor, and Syria. It is more or less common all over Barbary, where shrubs or trees occur, and it is also found in the oases of the Sahara. A good whole figure is given in the "Description de l'Egypte," Rept. pl. iv. fig. 3; and of the head in the British Museum Catalogue of Lizards, iii. pl. xxxix. fig. 1. A specimen from Bou-Saada has recently been described as *C. saharicus* by F. Müller, Verh. nat. Ges. Basel, vii. 1885, p. 715, pl. xi., and viii. 1887, p. 295, but it is nothing but a half-grown *C. vulgaris*.

Suborder III. *OPHIDIA.*

The Snakes of Barbary belong to three families, distinguished as follows :—

Mandible with coronoid element; maxillary horizontal; præfrontal bones forming a suture with nasals; vestiges of pelvis terminating in a claw-like spur visible on each side of the vent	1. **Boidæ.**
Mandible without coronoid element; maxillary horizontal; præfrontals not forming a suture with nasals; no rudiments of pelvis	2. **Colubridæ.**
Mandible without coronoid element; maxillary vertically erectile, perpendicular to transpalatine; præfrontals not forming a suture with nasals; no rudiments of pelvis	3. **Viperidæ.**

Fam. 1. BOIDÆ.

A single genus.

1. Eryx, Daudin, 1803.

Anterior maxillary and mandibular teeth a little longer than posterior. Head covered with small scales; a mental groove. Eye very small, with vertical pupil. Scales very small, smooth or keeled. Tail very short, not or but very slightly prehensile; subcaudals simple.

1. Eryx jaculus, Linnæus, 1766.

Rostral large, with angular horizontal edge; nine to eleven upper labials, separated from the eye by one or two series of scales. Scales smooth, in 40 to 50 longitudinal rows. Pale greyish or yellowish brown above, with large dark brown transverse blotches or alternating spots; belly white, uniform or with black dots.

Total length 510 millim., tail 45.

Inhabits North Africa, Greece, Turkey, and South-western Asia. Strauch records the snake from Oran and the Algerian Sahara, and M. Lataste obtained it at Wed Magra, Barika, and Ngaous, between Msila and Batna. A specimen was obtained in Tunisia at Bir-oum-Ali, south of Tebesa, near Tamesmida, by M. Sédillot. Not on record from Morocco.

Figured, 'Description de l'Egypte,' Rept. pl. vi. fig. 2.

Fam. 2. COLUBRIDÆ.

The *Colubridæ* of Barbary belong to 8 genera, falling into three divisions or series :—

A. *Aglypha.* No grooved fangs. Harmless.

a. Scales smooth or feebly keeled.

Head short; pupil round; no subocular	1. Coronella.
Snout cuneiform; pupil vertically elliptic	2. Lytorhynchus.

Head elongate; one or more suboculars below the præocular . . . . . 3. Zamenis.

b. Scales strongly keeled . . . . 4. Tropidonotus.

B. *Opisthoglypha.* Grooved fangs behind the series of maxillary teeth. Suspected, or poisonous to a slight degree.

a. Some of the anterior maxillary teeth enlarged and separated from those following by an interspace.

Head short; eyes rather small, pupil vertically subelliptic . . . . 5. Macroprotodon.

Head elongate; eye large, with round pupil . . . . 6. Psammophis.

b. Only the grooved maxillary teeth enlarged . . . . 7. Cœlopeltis.

C. *Proteroglypha.* Grooved fangs anteriorly. Poisonous.

Neck dilatable; no loreal shield . . . . 8. Naia.

1. Coronella, Laurenti, 1768.

Maxillary teeth 12 to 14, increasing in size posteriorly; mandibular teeth subequal. Head short, scarcely distinct from neck; eye rather small, with round pupil. Body cylindrical; scales smooth, in 19 to 32 rows, with apical pits; ventrals rounded; tail moderate; subcaudals in two rows.

Two species in Barbary.

1. Coronella amaliæ, Boettger, 1881. (Plate XVIII. fig. 1.)

Snout prominent; rostral as deep as broad, produced posteriorly between the internasals, the portion seen from above about half as long as its distance from the frontal; suture between the internasals one-third the length of that between the præfrontals; frontal a little longer than its distance from the end of the snout, a little shorter than the parietals; loreal longer than deep; one præ- and two postoculars; temporals 2+3; eight upper labials, fourth and fifth entering the eye; four lower labials in contact with the anterior chin-shields; posterior chin-shields three fourths the length of the anterior. Scales in 21 rows. Ventrals 190–193; anal divided; subcaudals 63–64. Grey-brown above, with reddish-brown spots and four rather indistinct dark longitudinal bands; vertebral region light; a pair of elongate dark brown spots on the nape; a black streak on each side of the head, from the nostril, through the eye, to the angle of the mouth; a dark band between the eye crossing the præfrontals; a black line below the eye, on the suture between the fourth and fifth upper labials. Lower surfaces coral-red, with quadrangular black spots.

Total length 390 millim., tail 72.

This species is intermediate between *C. austriaca* and *C. girondica*, agreeing with the former in the size and shape of the rostral shield, with the latter in all other respects.

The two specimens from which the above description is taken were obtained by M. H. Vaucher in the Benider hills, near Tangier. The type specimen of *Rhinechis amaliæ*, Boettg., is from between Tetuan and Tangier. M. Lataste received a single specimen from Bona, through Dr. Hagenmüller.

2. **Coronella girondica**, Daudin, 1803.

Snout scarcely prominent; rostral much broader than deep, just visible from above; suture between the internasals half as long as that between the præfrontals; frontal a little longer than its distance from the end of the snout, a little shorter than the parietals; loreal longer than deep; one præ- and two postoculars; temporals 2+3; eight upper labials, fourth and fifth entering the eye; four lower labials in contact with the anterior chin-shields, which are as long as the posterior. Scales in 21 rows. Ventrals 200; anal divided; subcaudals 59. Grey-brown above, with blackish spots; a pair of elongate blackish spots on the nape; a black streak on each side of the head, from the nostril, through the eye, to the angle of the mouth; a dark band between the eyes, crossing the præfrontals; a black line below the eye, on the suture between the fourth and fifth upper labials. Lower surfaces yellowish (in spirit), with quadrangular black spots.

Total length 450 millim., tail 80.

The above description is taken from a single female specimen from the city of Morocco, described in 1874 by Dr. Boettger, to whose kindness I am indebted for examining it. The species was recorded from Tangier by Gervais, who probably took for it the common *Macroprotodon cucullatus*, which does not appear in his list. Boettger records it from Tlemsen, in the Province of Oran. Nothing more can be said as to its distribution in Algeria since the records of authors may be based on the closely-allied *C. amaliæ*. M. Lataste did not meet with it in Algeria. *C. girondica* inhabits the south of France, Spain and Portugal, and Italy.

Figured in Bonaparte's 'Fauna Italica,' and in Jan's Icon. Gén. Ophid. livr. 17, pl. iii. figs. 1–3.

2. Lytorhynchus, Peters, 1862.

Maxillary teeth 6 to 9, posterior much longer than anterior; mandibular teeth subequal. Head slightly distinct from neck, with cuneiform projecting snout; eye moderate; pupil vertically elliptic; rostral large, four-sided, projecting, concave beneath; nostril an oblique slit between two nasals. Body cylindrical; scales smooth, in 19 rows, without apical pits; ventrals obtusely angulated laterally; tail moderate; subcaudals in two rows.

A single species in Barbary.

1. **Lytorhynchus diadema**, Dum. & Bibr. 1854.

Rostral angularly bent, with straight horizontal edge, detached on the sides, the portion visible from above as long as its distance from the frontal; suture between the internasals much shorter than that between the præfrontals; frontal nearly as long as its distance from the end of the snout, slightly shorter than the parietals; a small, squarish loreal; one or two præoculars, with or without a subocular below; two postoculars; temporals 1+2 or 2+3; seven or eight upper labials; fourth, fifth, or fourth and fifth, entering the eye; three lower labials in contact with the anterior chin-shields; posterior chin-shields as long as or a little longer than the anterior, and separated from each other by two series of scales. Scales in 19 rows. Ventrals 160 to 188; anal divided; subcaudals 36 to 46. Pale buff or cream-colour above, with a series of large transversely rhomboidal dark spots; a dark median band along the head and nape, sometimes confluent with an interocular transverse band; an oblique dark band from the eye to the angle of the mouth; lower parts uniform white.

Total length 450 millim., tail 60.

This sand-snake was first described from a specimen obtained in Algeria in the Western Desert. Gervais records another from the Souf. A specimen from Batna is in the St. Petersburg Museum. M. Lataste received it from Mraïer through Major Oudri, and from Ferriana, in Tunisia, through Dr. Robert. M. Valéry-Mayet found it at Gourbata, near Gafsa, and Marquis Doria has it from Kairouan. It is also known to occur in the Sennaar, in Arabia, Syria, and Persia. Figured by Jan, Icon. Gén. Ophid. livr. 10, pl. vi. fig. 2.

3. Zamenis, Wagler, 1830.

Maxillary teeth 10 to 20, increasing in size posteriorly; mandibular teeth subequal. Head elongate, distinct from neck; eye moderate or rather large, with round pupil; one or more suboculars. Body elongate, cylindrical; scales smooth or feebly keeled, in 15 to 31 rows, with apical pits; ventrals rounded or with an obtuse lateral keel; tail long; subcaudals in two rows.

The study of the species of this genus is a most perplexing one, owing to the complete passage which exists between many forms which it seems nevertheless necessary to distinguish. As regards the Barbary *Zamenis*, however, of which only three species are to be distinguished, the only difficulty will be in the definition, otherwise than by coloration, of *Z. algirus* from *Z. hippocrepis*; I am afraid we must at present content ourselves with the statement that the former has the scales disposed in 25 longitudinal rows and usually one labial entering the eye, whilst the latter has the scales usually in 27 rows (at the point where they are most numerous) and usually the eye completely separated from the labials by a series of suboculars.

Three other species have been ascribed to the fauna of Barbary, but must be erased: 1. *Z. florulentus*, Schleg., noticed and head figured by Gervais (Mém. Ac. Montpellier, iii. 1857, p. 512, pl. v. fig. 4), from Laghouat, is, in my opinion, the *Z. algirus*, and therefore widely different from Schlegel's species. 2. *Zamenis atrovirens*, Shaw, recorded from Algiers by Günther (Cat. Colubr. Snakes, 1858, p. 102) from a specimen purchased of a dealer in Paris, and mentioned from Mogador (specimen purchased, 1870) in the list of the animals having lived in the London Zoological Gardens. 3. *Zamenis ater*, Günther (Ann. & Mag. N. H. (4) ix. 1872, p. 22), stated to be from Biskra, is a melanotic variety of the South-American *Liophis reginæ*.

The three species described below may be distinguished as follows:—

Scales perfectly smooth, in 25 rows; usually one labial entering the eye; a pair of internasals and a pair of præfrontals . . . . 1. *algirus.*

Scales perfectly smooth, in 27 (rarely 25 or 29) rows; usually no labial entering the eye; a pair of internasals and a pair of præfrontals . . . . 2. *hippocrepis.*

Scales more or less distinctly keeled, in 25 to 33 rows; no labial entering the eye; usually three or more præfrontals; anal entire . . . . 3. *diadema.*

1. ZAMENIS ALGIRUS, Jan, 1863.

Z. florulentus, Gervais.

Scales smooth, in 25 rows. One præocular, with a subocular below; two postoculars and a subocular; temporals 2+3; nine upper labials, rarely ten, fifth or sixth usually entering the eye, but sometimes separated by an additional subocular. Ventrals 214 to 232; anal divided, rarely entire; subcaudals 92 to 100. Pale olive, yellowish brown, or greyish above, with three alternating series of darker transverse bars, and a series of dark spots along each side of the belly; a more or less distinct blackish crescentic band on the nape, extending to the sides of the throat; a blackish spot below the eye; lower parts white. Young specimens may have the head entirely black above.

Total length 940 millim., tail 230.

This species appears to be restricted to the Algerian and Tunisian Sahara. M. Lataste obtained specimens in Algeria at Biskra, Laghouat, between Bou-Saada and Biskra, and in Tunisia at Cabes, Raz-el-Oued, Aïn-Zerig, Hadedj, Djebel Domeur, Djerba Island, Tozeur, Ferriana, Gafsa; and M. Valéry-Mayet on Kerkenna, and at Djebel Berda and Madjoura; specimens were obtained on the Tunisian Chotts by Dr. André.

Of 14 examples examined by M. Lataste, all have 25 rows of scales; two have the anal single. In 22 out of 28 cases the fifth labial enters the eye, in two cases the sixth, in four the eye is completely separated from the labials by suboculars.

Figure: Jan, Icon. Gén. Ophid. livr. 48, pl. iv. fig. 2.

2. ZAMENIS HIPPOCREPIS, Linnæus, 1766.

Scales smooth, in 25 to 29 rows, usually 27. One or two præoculars; two postoculars; a series of three or four suboculars usually completely separates the eye from the labials; temporals 2+3 or 3+3; eight or nine (rarely ten) upper labials, fifth or sixth very rarely entering the eye. Ventrals 222 to 248; anal divided, rarely entire; subcaudals 79 to 107. Brown, reddish, yellow, or pale olive above, with a dorsal series of large dark brown, black-edged rhomboidal spots, on each side of which is a series of smaller alternating spots; these spots may be black and so large as to reduce the ground-colour to a mere chain or series of X's of pale colour; a dark cross-band between the eyes, and a Λ- or horseshoe-shaped band on the back of the head, which may be confluent with an elongate spot on the nape; the spots confluent into three longitudinal streaks on the tail; yellowish or red beneath, with or without black dots, but constantly with a lateral series of black spots.

Total length 1340 millim., tail 270.

One of the commonest snakes in Morocco and Algeria north of the Sahara, and extending to the northern parts of Tunisia. Obtained by M. Lataste in Algeria, at Oran, Batna, M'sila, and Tebesa, and received by him from the Plateau of Sersou and from Bona. Found also in Spain and Portugal and in Sicily. Recorded from Egypt through confusion with *Z. nummifer*, Rüppell.

Figured in Bonaparte's 'Fauna Italica.'

3. ZAMENIS DIADEMA, Schlegel, 1837.

Z. cliffordii, Strauch.

Scales more or less obtusely keeled, in 25 to 33 rows. Head-shields more or less broken up, there being frequently three transverse series of shields between the rostral and the frontal; three or more præfrontals; three to five loreals; two to four præ- and three or four postoculars; a series of suboculars separates the labials from the eye; temporals small, scale-like; 10 to 13 upper labials. Ventrals 210 to 278; anal entire; subcaudals 65 to 110. Pale buff or sandy grey above, with more or less marked dark spots, of which the median usually form a series of rhombs; lower parts white, rarely with small blackish spots.

Total length 1800 millim., tail 340.

Ranges from the Algerian Sahara eastwards to North-western India. M. Lataste collected specimens at Biskra, Wargla, and Wed Magra in Algeria, and at Mettamer and Ferriana in Tunisia. The specimen from Biskra has 33 rows of scales, two from Wargla 25, two others from Wargla 27, the one from Wed Magra 32, the one from Mettamer 27, and the one from Ferriana 32.

Figures: Jan, Icon. Gén. Ophid. livr. 20, pl. ii.; Geoffroy, Descr. Egypte, Rept. pl. viii. fig. 1.

4. TROPIDONOTUS, Kuhl, 1824.

Maxillary teeth 12 to 22, posterior longest; mandibulary teeth subequal. Head distinct from neck; eye moderate or rather large, with round pupil. Body cylindrical; scales keeled (rarely smooth), in 15 to 29 rows, with or without apical pits; ventrals rounded; subcaudals in two rows. Nasal bones very small; vertebral hypapophyses distinct throughout the vertebral column.

Two species in Barbary.

1. TROPIDONOTUS NATRIX, Linnæus, 1766.

Scales in 19 rows. Seven upper labials, third and fourth entering the eye; usually one præ- and three postoculars. Greyish, brownish, or olive above, uniform or with black spots; young with a yellow, black-edged collar, which may disappear in the adult. A variety (*persa*, Pall., *murorum*, Bp.) with two whitish or yellowish stripes along the back is common in Italy, but has not been found in Algeria.

Total length one metre or more.

Found all over Europe, Western and Central Asia. Rare in Algeria; not recorded from Morocco or Tunisia. Dr. Strauch found it at Algiers, M. Lataste at La Chiffa, Algiers, and Tifret, and Dr. Hagenmüller on Mt. Edough, near Bona.

Figures: Bonaparte, 'Fauna Italica' (*Natrix torquata*).

2. Tropidonotus viperinus, Latr., 1802.

Scales in 21 rows, rarely 23 (one specimen from L'Arba and one from Cabes, *Lataste*). Seven upper labials, third and fourth entering the eye; one or two præ- and two postoculars. Greyish, brownish, or reddish, with a more or less distinct black zigzag stripe along the back and ocelli on the sides; frequently (var. *ocellata*, Wagl., *aurolineata*, Gervais) two pale stripes along the back.

Total length 850 millim.

Common all over Morocco, Algeria, and Tunisia, wherever water occurs, for this species is still more aquatic than the preceding. Inhabits also the Iberian Peninsula, France, Switzerland, and Italy.

Figure: Bonaparte, 'Fauna Italica.'

5. Macroprotodon, Guichenot, 1850.

Maxillary teeth 10 or 11, fourth and fifth or fifth and sixth enlarged, followed by an interspace, the two posterior grooved; mandibular teeth increasing in size to the sixth, which is followed by an interspace, the posterior teeth small. Head short, slightly distinct from neck; eye small, with vertically subelliptic pupil. Body moderately elongate, cylindrical; scales smooth, in 19 to 25 rows, with apical pits; ventrals rounded; tail moderate; subcaudals in two rows.

1. Macroprotodon cucullatus, Geoffroy, 1827.

M. mauritanicus, Guichenot.—*Lycognathus tæniatus* et *textilis*, Dum. & Bibr.—*Coronella brevis*, Günther.—*M. maroccanus*, Peters.

The unique species of this genus bears a general similarity to the Palæarctic species of *Coronella*, from which it is, however, easily distinguished by the much depressed snout, the subelliptic pupil, the very broad and low rostral shield, and the presence of a single anterior temporal, which is usually separated from the postoculars, the sixth upper labial touching the parietal. Eight upper labials, fourth and fifth entering the eye; one præ- and two postoculars. The number of rows of scales varies from 19 to 25. Specimens from Tangier and Tetuan appear to have constantly 21 rows of scales, like those from the south of Spain (Badajos, *coll. Lataste*; Andalusia, *Brit. Mus.*). The number varies from 21 to 25, 23 being the usual number, in those from Casablanca, Mogador, and Morocco (*Coronella brevis*, Gthr., *Macroprotodon maroccanus*, Peters); out of 7 specimens from the city of Morocco, I find 5 with 23 rows, one with 21, and one with 25, and variation in a nearly equal proportion is recorded by Boettger on 44 specimens from Casablanca. In Algerian and Tunisian specimens there are usually 19 rows, as in all those from the Baleares, Tripoli, and Egypt; but I note 21 rows in one from Tunis, and M. Lataste found the same number in one specimen from Batna. Ventrals 153 to 192; anal divided; subcaudals 40 to 51. The coloration also varies greatly, and irrespective of the scaling. The large black blotch on the head, whence the name *cucullatus*, is not very frequent in occidental specimens; but a dark collar, descending to the sides of the neck, is usually present, and an oblique dark streak below the eye is constant. The belly may be uniform yellowish or almost entirely black; it is usually yellowish, with quadrangular black spots, as in *Coronella girondica* and *amaliæ*; usually a dark streak along the middle of the subcaudal region.

The largest specimen examined by me measures 490 millim., tail 85.

This species inhabits the south of the Iberian Peninsula, the Baleares, and the whole of North Africa, penetrating into the Sahara. It is common and generally distributed in Morocco, Algeria, and Tunisia.

Figured by Guichenot, Explor. Sc. Alg., Rept. pl. ii. fig. 2.

6. PSAMMOPHIS, Boie, 1827.

Maxillary teeth 10 to 13, one or two of the middle ones much enlarged, fang-like, and preceded and followed by an interspace, the two posterior grooved; anterior mandibular teeth long, posterior small. Head elongate, distinct from neck, with angular canthus rostralis; eye rather large, with round pupil. Body elongate, cylindrical; scales smooth, in 15 or 17 rows, with apical pits; ventrals rounded or obtusely angulated laterally; tail long; subcaudals in two rows.

A single species in Barbary.

1. PSAMMOPHIS SIBILANS, Linnæus, 1766.

Ps. punctatus, D. & B., Gervais.

Head narrow and elongate; internasals much shorter than the præfrontals; frontal very narrow, in contact with the præocular; loreal much elongate; one or two præ- and two or three postoculars; eight or nine upper labials, fourth and fifth, or fifth and sixth[1] entering the eye. Scales in 17 rows. Brown or greenish above, with longitudinal series of darker dots, or with two or three yellowish longitudinal streaks; upper lip and lower parts yellowish white, uniform or dotted with black.

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[1] All the specimens obtained in Algeria and Tunis by M. Lataste have 9 upper labials, fifth and sixth entering the eye (var. *punctata*, D. & B.).

Total length 920 millim., tail 290. Reaches a length of $1\frac{1}{2}$ metre.

Inhabits North Africa, Arabia, Syria, Asia Minor, and Southern Russia. Recorded by Gervais from Sefissifa, near the Moroccan frontier of Algeria, and by Strauch from the Mzab. M. Lataste found this snake common in the Algerian and Tunisian Sahara, and in the southern parts of the Plateaux; in Algeria, at Biskra, Tuggurt, Laghouat, Bou-Guelfaia, and Bou-Saada; in Tunisia at Raz-el-Wed, Cabes, Djebel Domeur, El Hamman des Beni-Zib, Fratis, Taferma, Tamesred, Bougrara, Mettamer, and Nebech el Dib.

Figured in 'Description de l'Egypte,' Rept. pl. viii. fig. 4.

7. Cœlopeltis, Wagler, 1830.

Maxillary teeth 10 to 16, subequal, followed by a very long grooved fang; anterior (especially 3rd to 5th or 6th) mandibular teeth long, posterior small. Head more or less elongate, distinct from neck, with angular canthus rostralis and projecting supraocular; eye large, with round pupil; nostril a crescentic slit between two nasals. Body elongate, cylindrical; scales smooth, more or less distinctly grooved longitudinally in the adult, with rather indistinct apical pits, in 17 or 19 rows; ventrals rounded; tail rather long; subcaudals in two rows.

Two species in Barbary.

1. Cœlopeltis lacertina, Wagler, 1824.

C. monspessulanus, Rozet.

Snout rather prominent, obtuse; forehead and loreal region concave. Internasals much shorter than the præfrontals; frontal narrower than the supraocular, in contact with the præocular; two loreal shields; one præ- and two or three postoculars; eight upper labials, fourth and fifth entering the eye. Scales more or less distinctly grooved, in 19 (rarely 17) rows. Olive or brown above, with or without dark spots; sides often blackish; yellowish white beneath, uniform or spotted or clouded with brown or olive.

Total length 1580 millim., tail 350.

This fine snake inhabits Southern Europe, the whole of North Africa, north and south of the Atlas, and South-western Asia. It is one of the commonest snakes all over Morocco, Algeria, and Tunisia.

Excellent figures are given by Bonaparte, 'Fauna Italica,' and by Savigny, 'Description de l'Egypte,' Rept., Suppl. pl. v. figs. 2 & 3.

2. Cœlopeltis producta, Gervais, 1857.

Snout very prominent, obtusely pointed; forehead flat or slightly convex; loreal region concave. Rostral wedged in far between the internasals, which are a little shorter than the præfrontals; frontal as broad as the supraocular; a single loreal; one præ- and two or three postoculars; eight upper labials, fourth and fifth entering the eye. Scales not very distinctly grooved, in 17 rows. Pale yellowish brown or sandy grey above, with brown or blackish spots; two oblique brown bars on each side of the head behind the angle of the mouth; lower parts white.

Total length 600 millim., tail 110.

Originally described from the Algerian Sahara, this species has since been found in Tunisia, Tripoli, Egypt, Nubia, and Arabia.

Gervais's specimen was obtained on the borders of the Sahara, between Bou-Alam and the Arbas, in the Province of Oran. A single specimen was obtained in Tunisia, at Bou-Hedma, near Gafsa, by M. Valéry-Mayet.

Figured by Jan, Icon. Gén. Ophid. livr. 34, pl. ii. fig. 2.

8. NAIA, Laurenti, 1768.

Poison-fangs with a distinct groove anteriorly, followed by one to three small solid teeth. Head distinct from neck; no loreal. Eye rather small, with round pupil. Neck dilatable. Body cylindrical; scales disposed obliquely, smooth, in 15 or more rows; tail moderate; subcaudals in a single or double row.

A single species in Barbary.

1. NAIA HAIE, Linnæus, 1766.

Seven upper labials, sixth largest and in contact with the postoculars. 21 to 23 scales across the neck, 19 to 21 across the middle of the body. All the specimens hitherto found in Barbary have the eye completely separated from the labials by a series of suboculars (var. *annulifera*, Peters, 1854) and the coloration of the upper parts is a uniform dark or blackish brown.

Reaches a length of 2 metres.

The African Cobra is found all over Africa south of the Atlas.

A. Duméril (Rev. Mag. Zool. 1856, p. 554) mentions a specimen received by the Paris Museum from Morocco, and Boettger records it from the interior of Morocco. M. Lataste obtained specimens near Biskra, and one at Zarzis, in Tunisia; a second specimen was obtained in Tunisia by M. Valéry-Mayet at the well of El Aïa, near Wed Leben, and a third at Raz-el-Aioun, between Gafsa and Tameghza, by M. Sédillot.

The var. *annulifera* is beautifully figured in the 'Expédition de l'Egypte,' Rept., Suppl. pl. iii.

Fam. 3. VIPERIDÆ.

The Vipers of Barbary belong to three genera:—

Lateral series of scales running in straight longitudinal lines; subcaudals in two rows. . . . . 1. Vipera.
Lateral scales disposed obliquely; subcaudals in two rows . . . . 2. Cerastes.
Lateral scales disposed obliquely; subcaudals in a single row . . . . 3. Echis.

1. Vipera, Laurenti, 1768.

Upper surface of head covered with scales or small shields. Scales keeled, in 21 to 38 straight longitudinal rows. Subcaudals in two rows.

The three species found in Barbary may be distinguished as follows:—

A. Nostrils lateral.
Scales in 21 rows; end of snout turned up . . . . 1. *latastii.*
Scales in 23 to 27 rows; snout blunt . . . . 2. *lebetina.*
B. Nostrils directed upwards; scales in 29 to 31 rows . . . . 3. *arietans.*

1. Vipera latastii, Boscá, 1878.

V. aspis, Strauch.

Snout turned up, terminating in a low erect appendage; rostral twice as deep as broad; a large supraocular shield, separated from its fellow by five to eight longitudinal series of smooth scales; two or three series of scales between the eye and the labials; 9 to 11 upper labials. Scales in 21 rows. Pale brown above, with a zigzag or scalloped dark brown band and a lateral series of dark brown spots; a dark band from the eye to the neck; lower parts blackish, dotted or spotted with white or grey, spotted black and white.

Total length 530 millim., tail 60.

This species, first described from Spain and Portugal, where it had long been confounded with the more oriental *V. ammodytes*, is of particular interest as forming a complete passage between the latter species and *V. aspis*; in fact, the lesser development of the rostral appendage as compared with *V. ammodytes*, and the greater development of the same as compared with *V. aspis*, are the only characters which distinguish *V. latastii* from its two allies.

It was first recorded in Barbary from Guyotville, near Algiers, under the name of *V. aspis*, by Strauch, and it has since been found on Mt. Edough, near Bona, by Dr. Hagenmüller and M. Lataste. Dr. Kobelt collected two specimens near Tangier, which have been described by Boettger.

Figured by Boscá, Bull. Soc. Zool. France, 1878, pl. iv.

2. Vipera lebetina, Linnæus, 1766.

V. brachyura, Schlegel.—*Echidna mauritanica,* Guichenot.

Snout obtuse. Nostril between three shields; rostral a little broader than deep; a narrow supraocular shield is present or absent; upper surface of head covered with small, imbricate, strongly keeled scales, 9 to 12 across the forehead, from eye to eye; three or four series of scales between the eye and the labials; 10 to 12 upper labials. Scales in 23 to 27 rows. Pale grey-brown above, with darker spots or cross-bands, which are very distinct in the young, but feebly marked or absent in the adults; lower parts whitish, powdered with grey.

Total length 1½ metre.

Inhabits North Africa and South-western Asia, and the Greek Island Milo, to Northern Baluchistan, Afghanistan, and Cashmere. It is not uncommon near Oran; has been recorded from the interior of Morocco by Boettger; M. Lataste saw specimens from near Batna and Mt. Edough, Bona[1], in the collection of M. Hénon, and captured others in Tunisia at El Hammam des Beni-Zib, Djebel Domer, Taferma, and Tamesmida, and received a specimen from Tadjera, near Mettamer, through Capt. Rebillot.

Figured by Guichenot, Explor. Sc. Alg., Rept. pl. iii.

3. Vipera arietans, Merrem, 1820.

Snout very short and broad. Nostrils large, directed upwards, pierced between three shields; rostral more than twice as broad as deep; no supraocular shield; upper surface of head covered with small, imbricate, strongly keeled scales, 9 to 11 across the forehead, from eye to eye; three or four series of scales between the eye and the labials; 12 to 15 upper labials. Scales in 29 to 31 rows. Yellowish or pale brown above elegantly marked with large ♈-shaped, dark brown, black-edged spots; a large dark blotch covers the crown, separated from a smaller interorbital spot by a transverse yellow line; an oblique dark brown band below, and another behind the eye.

Reaches a length of 1220 millim.

This large and deadly snake is found over the greater part of Tropical and South Africa. From West Africa it penetrates into Southern Morocco, a specimen from the Valley of Sous having been recorded by Boettger.

A good figure is given by Wagler, Icon. Amph. pl. xi.

2. Cerastes, Wagler, 1830.

Upper surface of head covered with scales. Scales keeled, in 23 to 33 rows, the laterals disposed obliquely. Subcaudals in two rows.

Two species in the Algerian and Tunisian Sahara.

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[1] This locality, M. Lataste informs me, is somewhat doubtful. The Batna specimens are uniform greenish above.

1. CERASTES VIPERA, Linnæus, 1766. (Plate XVIII. fig. 2.)

Vipera avicennæ, Strauch.

Snout very short, rounded; eye very small. Head-scales small, tubercularly keeled; nostril between two small shields; no horn-like scales over the eye; three or four series of keeled scales between the eye and the labials. Scales in 23 to 25 rows. A strong keel on each side of the ventrals. Yellowish brown, sand-colour above, with or without darker spots; lower parts white.

Total length 240 millim., tail 30.

This small Viper inhabits the desert of Algeria, Tunisia, Tripoli, and Egypt. It was first recorded in Algeria from the Western Desert by Duméril and Bibron (*Echidna atricauda*), and M. Lataste collected specimens at Bou-Saada, Biskra, and between Bou-Saada and Biskra. M. Lataste did not come across it in Tunisia, but was informed that Marquis Doria possesses several specimens from the southern parts.

The specimen figured by Jan under the name of *Vipera avicennæ* is a *Cerastes cornutus* without horns. As there exists no figure of this viper, I have supplied one on Plate XVIII. fig. 2.

2. CERASTES CORNUTUS, Forskål, 1775.

Vipera cerastes, Schlegel, Gervais, Strauch.

Snout very short and broad; eye rather small, usually with a large, ribbed, horn-like scale above. Head-scales small, tubercularly keeled; nostril in a single small nasal; four or five series of keeled scales between the eye and the labials. Scales in 29 to 33 rows. An obtuse keel on each side of the ventrals. Yellowish-brown sand-colour above, with or without brown spots forming regular longitudinal series, white below.

Total length 630 millim., tail 75.

Inhabits the Sahara, extending eastwards to Arabia. Schlegel records it from Biskra, Strauch from Djelfa, Laghouat, Saïda, Biskra, and Batna, and Boettger from Geryville. M. Lataste obtained it in Algeria, at Bou-Saada and at Bordj-Tayer-Rasson, and in other localities in the sandy Sahara, and at Wed Magra, in the southern parts of the High Plateaux; he found it common throughout Southern Tunisia.

Figures: Jan, Icon. Ophid. livr. 45, pl. v. (*Vipera cerastes* and *V. avicennæ*), and Geoffroy, Descr. de l'Egypte, Rept. pl. vi. fig. 3.

3. ECHIS, Merrem, 1820.

Upper surface of head covered with scales. Scales keeled, in 25 to 35 rows, the laterals disposed obliquely. Subcaudals in a single row.

A single species in Barbary.

1. ECHIS CARINATA, Schneider, 1801.

Snout very short and rounded. Nostril between three shields, the anterior and upper of which are in contact with the rostral; head covered with small keeled scales, among which an enlarged supraocular is sometimes present; two series of scales between the eye and the labials; 11 or 12 upper labials. Scales in 29 to 35 rows. Pale buff, greyish, reddish, or pale brown above, with three series of whitish spots edged with dark brown; a zigzag dark brown band may run along each side: a cruciform or ᛦ-shaped, whitish, dark-edged marking on the head; lower parts whitish, uniform or with brown dots.

Total length 600 millim., tail 65.

Inhabits the desert sandy districts of North Africa, South-western Asia, and India. M. Lataste examined several specimens from Biskra in M. Hénon's collection at Constantine, and a single specimen was found at Tadjera, near Mettamer, in Tunisia, by M. Letourneux.

Figure: 'Description de l'Egypte,' Rept., Suppl. pl. iv. fig. 1.

BATRACHIA.

The Batrachians are very poorly represented in North Africa. They fall into two Orders:—

I. **ECAUDATA**, Frogs and Toads, in which the tail is present only during the larval period.
II. **CAUDATA**, Newts and Salamanders, in which the tail persists throughout life.

Order I. ECAUDATA.

Four Families:—

1. **Ranidæ.** Upper jaw toothed; diapophyses of sacral vertebra not dilated.
2. **Bufonidæ.** Jaws toothless; diapophyses of sacral vertebra dilated.
3. **Hylidæ.** Upper jaw toothed; diapophyses of sacral vertebra dilated; digits expanded at the end, the distal phalanx claw-shaped and swollen at the base.
4. **Discoglossidæ.** Upper jaw toothed; diapophyses of sacral vertebra dilated; anterior dorsal vertebræ with short ribs.

Each of these four Families is represented in Barbary by a single genus. The four genera may be distinguished as follows:—

I. Pupil horizontal; vomerine teeth, if present, between the choanæ.
  A. Digits not dilated at the end.
    Tongue deeply notched, bifid posteriorly; teeth in upper jaw and on palate. 1. Rana.
    Tongue elliptical, entire; no teeth . . . . 2. Bufo.
  A. Digits dilated at the end . . . . 3. Hyla.
II. Pupil round or subtriangular; vomerine teeth behind the choanæ . . . . 4. Discoglossus.

Fam. 1. RANIDÆ.

1. Rana, Linnæus, 1766.

Pupil horizontal. Vomerine teeth. Tongue forked and free behind. Fingers free, toes webbed.

This almost cosmopolitan genus is represented in Barbary by a single species.

1. Rana esculenta, Linnæus, 1766.

R. viridis, Guichenot.

Vomerine teeth between the choanæ. Interorbital space narrower than the upper eyelid; tympanum distinct, about two thirds the size of the eye. Toes entirely webbed. A glandular lateral fold. Green, olive, or bronzy brown above, usually with black spots and a pale green vertebral line. Male with two external vocal sacs.

This species is distributed over nearly the whole of the Palæarctic Region. The form found in Barbary, which has been named var. *latastii* by Camerano, I regard as inseparable from the var. *ridibunda*, Pall., which is found in Western and Central Asia, Eastern Europe and Germany, the south of France and the Pyrenean Peninsula, Tripoli, Egypt (?), and the Sinaitic Peninsula. It is distinguished from the typical form by the smaller size of the inner metatarsal tubercle, which is blunt, not compressed. It is found throughout Morocco, Algeria, and Tunis, penetrating into the desert, where it was obtained as far as Wargla by M. Lataste, who also found it everywhere in Tunisia.

I append measurements in millimetres of several specimens (females) in the collection of the British Museum:—

	Tangier.				Constantine.		Tunis.	
From snout to vent	85	69	69	65	90	53	75	75
Length of tibia	45	37	35	35	44	27	37	37
Length of foot (from outer metatarsal tubercle)	45	37	34	34	46	27	38	38
Length of inner toe	13	11	10	10	13	7½	11	10½
Length of inner metatarsal tubercle	4	3	3	3	4	2½	3½	3½

From which we see that the length of the inner metatarsal tubercle is contained from 3 to 3⅔ times in the length of the inner toe, and from 11 to 12 times in the length of the foot, which nearly equals that of the tibia.

The var. *ridibunda* is figured, from German specimens, in Proc. Zool. Soc. 1885, pl. xl.

Fam. 2. BUFONIDÆ.

1. Bufo, Laurenti, 1768.

Pupil horizontal. Tongue elliptic or pyriform, entire and free behind. Fingers free, toes webbed.

The true Toads form a large genus, represented over the greater part of the world. Three species are found in Barbary, distinguishable as follows:—

A. Subarticular tubercles under the toes all single; a tarsal fold; tympanum about half the diameter of the eye . . . . 1. *viridis.*
B. Subarticular tubercles under the median toes in pairs.
  A tarsal fold; first finger much longer than second . . . . 2. *mauritanicus.*
  No tarsal fold . . . . 3. *vulgaris.*

1. Bufo viridis, Laurenti, 1768.

B. variabilis, Gervais.

Interorbital space narrower than the upper eyelid; tympanum about half the diameter of the eye. First finger extending a little beyond second; toes half or two-thirds webbed, with single subarticular tubercles; a tarsal fold. Above with olive or greenish spots on a greyish or pinkish ground; sometimes a yellow vertebral line. Male with a subgular vocal sac.

From snout to vent 95 millim.

This Toad has a very wide distribution, being found over the greater part of Europe, though not west of the Alps, Central and Western Asia, the Himalayas, and North Africa. Common in Italy and the Baleares, but absent from the Iberian Peninsula. It is known in Morocco, from Casablanca and between Mogador and Morocco, but has not been found in the Northern Promontory. Strauch says it is common near Oran, and Eichwald found it at Musaya, on the Algerian Atlas. Lataste received it from the Plateau of Sersou, collected specimens at Oran, El Guerah, Bona, and Ghardaia, and Tilremt, and found it common everywhere in Tunisia.

The characters upon which *Bufo boulengeri*, Lataste (Rev. Int. des Sciences, 1879, p. 438), was founded, upon a single specimen from the Plateau of Sersou, have proved to be individual, and M. Lataste now entertains no doubt that the name should be regarded as a synonym of *B. viridis.*

2. Bufo mauritanicus, Schlegel, 1841.

Bufo pantherinus, Guichenot, Strauch.—*B. arabicus,* Gervais.

Interorbital space concave, broader than the upper eyelid; tympanum very distinct, vertically oval, its greatest diameter not much more than half that of the eye. First finger much longer than second; toes webbed at the base, with double subarticular tubercles; a tarsal fold. Above usually with large insuliform, dark-edged, reddish-brown spots. Male with a subgular vocal sac.

From snout to vent 140 millim.

This fine large Toad appears to be peculiar to Barbary. It has been found in every part of Morocco yet investigated, and is very common all over Algeria as far south as the limit of the Sahara, M. Lataste having obtained it at Biskra, Bou-Saada, and Laghouat. It is found near Tunis, and M. Lataste met with it at Tozeur, Gafsa, and Ferriana, but not at Cabes, where *Bufo viridis* and *Rana esculenta* are abundant.

I have given a figure of *B. mauritanicus* in Proc. Zool. Soc. 1880, pl. li.

3. BUFO VULGARIS, Laurenti, 1768.

Interorbital space broader than the upper eyelid; tympanum more or less distinct. First finger extending scarcely beyond second; toes at least half webbed, with double subarticular tubercles; no tarsal fold. Brown or dull olive above, with darker spots; parotoid glands with a dark outer margin. Male without vocal sac.

From snout to vent 130 millim.

The Common Toad of Europe and Palæarctic Asia is rare in Algeria, and at present only known from Algiers (*Strauch*, *Lataste*), Tlemsen (*Boettger*), and Bona, where Dr. Hagenmüller states it is not unfrequent. It is undoubtedly the rarer of the three toads of Barbary. Camerano has recorded it from Larache in Morocco. It has not yet been obtained in Tunisia.

Fam. 3. HYLIDÆ.

1. HYLA, Laurenti, 1768.

Pupil horizontal. Vomerine teeth. Tongue subcircular, entire or slightly nicked and more or less free behind. Fingers free or webbed, toes webbed.

Of this large genus a single species occurs in Europe and round the Mediterranean.

1. HYLA ARBOREA, Linnæus, 1766.

H. viridis, Guichenot.

Fingers webbed at the base; tympanum distinct; upper parts perfectly smooth, belly granular. Male with a large subgular vocal sac.

From snout to vent 50 millim.

The Tree-Frog of Barbary belongs to the var. *meridionalis*, Boettg., 1874 (=*perezi*, Boscá, 1880, *barytonus*, Héron-Royer, 1884), which is uniform green, without a dark stripe along the side of the body, and with the green colour extending to the sides of the throat. It inhabits the south of France, North Italy, Spain and Portugal, the Canary Islands and Madeira, and Barbary, where it is common all over the Tell. It has been found everywhere in Morocco.

This variety is figured by Boscá, Ann. Soc. Esp. x. 1881, pl. ii. figs. 7–10, and by Héron-Royer, Bull. Soc. Zool. France, 1884, pl. ix.

Fam. 4. DISCOGLOSSIDÆ.

1. Discoglossus, Otth, 1836.

Pupil roundish-subtriangular. Tongue circular, entire, scarcely free behind. Vomerine teeth in long transverse series behind the choanæ. Fingers free, toes webbed.

1. Discoglossus pictus, Otth, 1836.

Snout longer than the diameter of the orbit, without canthus rostralis; tympanum hidden or slightly distinct. First finger shorter than second; three metacarpal tubercles, the inner very much developed in the male; toes webbed at the base in the female, almost entirely in the male; a small inner metatarsal tubercle. Skin smooth or with small flat warts above. Brownish, yellowish, reddish, or olive above, with dark light-edged spots, sometimes confluent into longitudinal bands; some specimens with three light dorsal stripes. Male without vocal sacs; during the breeding-season with black rugosities on the chin, the inner metacarpal tubercle, the inner digits, and on the free border of the web between the toes.

From snout to vent 60 millim.

North-African specimens have been distinguished by Camerano (Atti Acc. Torin. xiii. 1878, p. 548, and xiv. 1879, p. 447, figs.) under the name of *D. scovazzi*, chiefly on account of their distinct tympanum; and this distinction has been recently upheld by Héron-Royer with the new name of *D. auritus* (Bull. Soc. Angers, 1889, p. 177). A renewed examination of the rich series in the British Museum has convinced me that, as shown by Lataste ("Etude sur le Discoglosse," Act. Soc. Linn. Bordeaux (4) iii. 1879, p. 275), but one species of *Discoglossus* can be admitted. A male specimen, collected at Algiers by Mr. Sclater, has the tympanum completely concealed, and, on the other hand, the organ is perfectly distinct in a male collected by M. Boscá on the Serra Morena. The shape and extent of the dark temporal band are subject to much variation in specimens from the same locality, and I have failed to find any constancy in the other very trivial distinctive characters pointed out by M. Héron-Royer.

D. pictus abounds in the Tell, from Morocco to Tunis, and is also found in the intermediate zone between the Tell and the Sahara, M. Lataste having obtained it as far south as Batna. Moroccan localities are Tangier, Tetuan, Casablanca, Mogador, and Morocco. Common round Tunis, and found on Galita Island by Marquis Doria. Also recorded by Lataste from the Tunisian Chotts (Tozeur and Nefta). In Europe *D. pictus* is known from Spain and Portugal, Corsica, Sardinia, Malta, and small neighbouring islands.

M. Lataste has observed that, as in the European *Alytes*, the breeding-season extends from the early spring to the end of summer.

Excellent figures of this Batrachian accompany Lataste's memoir quoted above.

Order II. CAUDATA.

Fam. 1. SALAMANDRIDÆ.

Lizard-like Batrachians breathing by lungs in the perfect condition, with well-developed eyelids. Represented in Barbary by two genera.

1. Salamandra, Laurenti, 1768.

Tail subcylindrical. Terrestrial.

1. Salamandra maculosa, Laurenti, 1768. (Plate XVIII. fig. 3.)

Skin smooth, shining, porous above; a distinct parotoid gland on each side of the neck; a lateral series of large warts; a strong gular fold. Black, with yellow markings. Inhabits Central and Southern Europe, Syria, Morocco, and Algeria.

The Moroccan and Algerian specimens are separable as a variety which has been named var. *algira*, by Bedriaga (Arch. f. Nat. 1883, p. 245). It is distinguished from the European Salamander, including the Corsican form, *S. corsica*, Savi, to which the Algerian specimens have been erroneously referred by some authors, by the more slender build, the longer digits, and the longer tail, as may be seen from the following measurements, in millimetres, of specimens in the British Museum:—

	Tangier.				Bona.	
From snout to vent	86	73	62	47	85	60
Tail	77	65	55	43	80	52
Third toe	8	6·5	5	4	8	5
Fifth toe	3	3	2	2	3·5	2

The yellow spots are few, round or oval, and disposed alternately in two series, but never form longitudinal bands as is frequently the case in European specimens.

The Salamander is very local in Algeria, but abundant where it occurs. Guichenot found it at Oran, and states that Col. Levaillant got it at Constantine. Lallemant records it, on the authority of Letourneux, from Kabylia and Bona (Mt. Edough). It has been found in great numbers in the latter locality by Dr. Hagenmüller. M. Lataste received it from L'Arba through M. Lallemant, and collected himself larval specimens in that locality. Hanoteau and Letourneux record it from the forest of Akfadou, Bougia, and Fort National. and Dr. Boettger from Bougia. The only locality in Morocco where the Salamander has yet been found is the Benider Hills, near Tangier; we are indebted to M. H. Vaucher for this discovery.

The North-African variety of *Salamandra maculosa* has not been figured before. Fig. 3 *a* on Plate XVIII. represents a specimen from Mt. Edough, near Bona, and figs. 3 *b*, *c* two young from the Benider Hills, near Tangier.

2. Molge, Merrem, 1820.

Tail compressed. Aquatic during the breeding-season.

Three species in Barbary.

A. Palatine teeth not extending forwards beyond the line of the choanæ.
Palatine teeth forming a ∩; contour of lower jaw semicircular . . . . 1. *poireti.*
Palatine teeth forming a Λ; contour of lower jaw semielliptic . . . . 2. *hagenmuelleri.*
B. Palatine teeth extending forwards beyond the line of the choanæ. . . . 3. *waltlii.*

1. Molge poireti, Gervais, 1835.

Euproctus rusconii, Guichenot. *Triton nebulosus*, Guichenot.

Palatine teeth in two slightly curved series, approximating in front, forming a ∩. Tongue subcircular or oval, free behind and on the sides. Head much depressed, as long as broad or a little longer; snout broad, rounded, the contour of the jaws semicircular. Tail longer than head and body. Skin tuberculate; a more or less distinct gular fold. Olive above, yellow or orange beneath, with or without small black spots.

Total length 150 millim.

Common near Algiers and at L'Arba, whence M. Lataste received specimens. He also observed it at Guyotville, and received a specimen from Bougie, through Dr. Hagenmüller, in 1882. Guichenot records it from Oran, and Giglioli from near Tunis.

Figured under two different names by Guichenot.

2. Molge hagenmuelleri, Lataste, 1881. (Plate XVIII. fig. 4.)

Distinguished from the preceding by the series of palatine teeth being less far apart anteriorly, forming a Λ; head longer, contour of jaws semielliptic. Fingers and toes more slender.

Size smaller, 100 millim.

This species was founded on numerous specimens sent from Bona and its environs by Dr. Hagenmüller to M. F. Lataste. It has since been recorded from Biskra by Dr. Boettger. Specimens received from Constantine through M. Hénon in 1881, induce M. Lataste to regard *M. hagenmuelleri* as a variety of *M. poireti*, as there appears to be a complete passage between them and the specimen from Bougie noticed above.

I have given figures of typical specimens from Bona, on Plate XVIII. fig. 4.

3. Molge waltlii, Michahelles, 1830.

Palatine teeth in two slightly curved series approximating in front, commencing in front of the line of the choanæ. Tongue subcircular, free on the sides and behind. Head much depressed, as long as broad. Tail longer than head and body. Ribs very long, ending in a sharp point, which frequently perforates the skin. Skin tuberculate; a strong gular fold. Olive-brown above, yellowish beneath, with blackish markings.

Total length 224 millim.

Inhabits the south of Spain and Portugal, and has been found in Morocco at Tangier, Ceuta, and between Tangier and Tetuan. Specimens recently sent by M. Vaucher were obtained in the marshes of Charf-la-Kaab, a few miles south of Tangier.

Molge waltlii has been several times figured; the least unsatisfactory figure is that given by Bonaparte, 'Fauna Italica.'

EXPLANATION OF THE PLATES.

PLATE XIII.

Fig. 1. *Saurodactylus mauritanicus*, D. & B. Mogador. (Page 109.)
- *a.* Natural size.
- *b.* Side view of head, × 3.
- *c.* Lower view of head, × 3.

Fig. 2. *Ptyodactylus lobatus*, var. *oudrii*, Lataste. Bou-Saada. (Page 114.)
- *a.* Natural size.
- *b.* Side view of head, × 2.
- *c.* Lower view of head, × 2.

Fig. 3. *Tarentola mauritanica*, var. *deserti*, Lataste. Wargla. (Page 116.)
- *a.* Natural size.
- *b.* Side view of head, natural size.
- *c.* Lower view of head, natural size.

Fig. 4. *Agama tournevillii*, Lataste. Sahara. (Page 118.)
- *a.* Natural size.
- *b.* Side view of head, natural size.

PLATE XIV.

Fig. 1. *Agama bibronii*, A. Dum. Tangier. (Page 118.)
- *a.* ♂, natural size.
- *b.* ♂, side view of head, natural size.
- *c.* ♀, natural size.
- *d.* Young, natural size.

Fig. 2. *Psammodromus blanci*, Lataste. Lambesa. (Page 127.)
- *a.* ♀, natural size, upper view.
- *b.* Lower view.
- *c.* Upper view of head, × 2.
- *d.* Side view of head, × 2.

PLATE XV.

Lacerta ocellata, Daud. (Page 123.)

Figs. *a*, *b*, *c*, *d*. Adult ♂. Tunis. (Var. *pater*, Lataste.)
Fig. *e*. Young. Algiers. (Var. *pater*, Lataste.)
Fig. *f*. Upper view of head of ♀. Tangier. (Var. *tangitana*, Blgr.)
Fig. *g*. Upper view of head of ♂. Ferrol, Spain.
All the figures natural size.

PLATE XVI.

Eumeces algeriensis, Peters, natural size. Mogador. (Page 136.)

PLATE XVII.

Fig. 1. *Chalcides ocellatus*, var. *vittatus*, Blgr. Tangier. (Page 139.)
And (*a*) side view of head and anterior part of body, natural size.
Fig. 2. *Chalcides ocellatus*, var. *polylepis*, Blgr., natural size. City of Morocco. (Page 139.)
And (*a*) side view of head and anterior part of body, × 2.
Fig. 3. *Chalcides lineatus*, Leuck. Tangier. (Page 139.)

PLATE XVIII.

Fig. 1. *Coronella amaliæ*, Boettg. Tangier. (Page 144.)
a. Natural size.
b. Upper view of head, × 2.
c. Side view of head, × 2.
Fig. 2. *Cerastes vipera*, L. Tripoli. (Page 155.)
a. Natural size.
b. Upper view of head, × 2.
c. Side view of head, × 2.
Fig. 3. *Salamandra maculosa*, var. *algira*, Bedr. (Page 161.)
a. ♀, natural size. Bona.
b, *c*. Young. Tangier.
Fig. 4. *Molge hagenmuelleri*, Lataste. Bona. (Page 162.)
a. ♂, Natural size.
b. ♀, natural size.
c. Open mouth, × 2.